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THIRTY-NINTH ANNUAL REPORT
OF THE
New York Zoological Society



1895

1934

CITY OF NEW YORK

New York Zoological Society

Founded in 1895 for the establishment of the Zoological Park; conservation of the animal life of the world--fishes, mammals, birds; promotion of zoology through exploration and publication; and, in 1900, the direction of the New York Aquarium in Battery Park



THIRTY-NINTH ANNUAL REPORT

Address, *Director*, W. Reid Blair, Zoological Park, 185th Street and Southern Boulevard; *Director*, Charles H. Townsend, Aquarium, Battery Park; *Secretary*, 101 Park Avenue.

Published at the Office of the Society,
101 PARK AVENUE, NEW YORK, N. Y.

JANUARY, 1935

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THE NEW YORK ZOOLOGICAL SOCIETY

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NEW YORK

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THE PAUL J. RAINEY MEMORIAL GATE	<i>Frontispiece</i>
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The Zoological Park

AMERICAN ELK	KOMODO MONITORS
AMERICAN BISON	INDIAN COBRA; STRIPED RACER
BIG-HORNED MOUNTAIN SHEEP	BIRD SPIDER;
ORANG-UTAN	WEST INDIAN LAND CRAB
AFRICAN TWO-HORNED RHINOCEROS	GIANT CENTIPEDE
LIONESS	MUTE SWAN
LIONESS	AMERICAN EGRET
HIMALAYAN TAHR	CABOT TRAGOPAN
PRAIRIE DOGS	MALLARD DUCKS
POTTO; HUTIA	GOLIATH HERON
SLOTH BEAR;	WINTERING BLACK DUCKS
EUROPEAN BROWN BEAR	NORTHERN EARED VULTURE;
NYLGHAI	ARCTIC HORNED OWL

The New York Aquarium

GLASS CATFISH	THREAD FISH
SOUTH AMERICAN CATFISH	FRESH-WATER GARFISH
PIRARUCU	MUSKALLUNGE AND FRY
CUBAN GAR	ARMORED SOUTH AMERICAN CATFISH

Department of Tropical Research

CREEPING GLASS SNAIL	YOUNG GOOSE BARNACLE
LIZARD-HEADED DRAGONFISH	LONG-SPINED GIANT SQUID
AZURE FLOATING SNAIL	TELESCOPE-EYED LONG-FIN

New York Zoological Society

Membership

Membership.—Membership in the Zoological Society is open to all who are interested in the objects of the organization and desire to contribute toward its support.

Classes.—Annual Membership is \$10. This entitles the holder to admission to the Zoological Park on pay days, when the collections may be seen to the best advantage; all periodical publications of the Society, privileges of the Administration Building, lectures, special exhibitions, and ten complimentary tickets to the Zoological Park for distribution.

Annual Members may become Life Members by the payment of \$200; a subscriber of \$1,000 becomes a Patron; \$2,500, an Associate Founder; \$5,000, Founder; \$10,000, a Founder in Perpetuity, and \$25,000 a Benefactor.

Applications for Membership should be sent to the Secretary, New York Zoological Society, 101 Park Avenue, New York, N. Y.

Form of Bequest

I do hereby give and bequeath to the "NEW YORK ZOOLOGICAL SOCIETY," of the City of New York.....

.....

.....

Address, CORNELIUS R. AGNEW, *Treasurer*
82 Beaver Street, New York, N. Y.

New York Zoological Society

Organized 1895

Presidents

I. ANDREW H. GREEN	1895 to 1897
II. LEVI P. MORTON	1897 to 1909
III. HENRY FAIRFIELD OSBORN	1909 to 1925
IV. MADISON GRANT	1925

First Vice-Presidents

I. J. HAMPTON ROBB	1895 to 1897
II. HENRY FAIRFIELD OSBORN	1897 to 1909
III. SAMUEL THORNE	1909 to 1916
IV. MADISON GRANT	1916 to 1925
V. FRANK K. STURGIS	1925 to 1932
VI. W. REDMOND CROSS	1932

Second Vice-Presidents

I. CHARLES E. WHITEHEAD	1895 to 1902
II. JOHN L. CADWALADER	1902 to 1915
III. MADISON GRANT	1915 to 1916
IV. FRANK K. STURGIS	1916 to 1925
V. HENRY D. WHITON	1925 to 1930
VI. KERMIT ROOSEVELT	1930

Treasurers

I. L. V. F. RANDOLPH	1895 to 1901
II. CHARLES T. BARNEY	1901 to 1903
III. PERCY RIVINGTON PYNE	1903 to 1922
IV. CORNELIUS R. AGNEW	1922

Secretaries

I. MADISON GRANT	1895 to 1925
II. WILLIAM WHITE NILES	1925 to 1935

Chairmen, Executive Committee

I. CHARLES E. WHITEHEAD	1895 to 1896
II. HENRY FAIRFIELD OSBORN	1896 to 1903
III. CHARLES T. BARNEY	1903 to 1908
IV. HENRY FAIRFIELD OSBORN	1908 to 1909
V. MADISON GRANT	1909

Directors

I. WILLIAM T. HORNADAY, <i>Zoological Park</i>	1896 to 1926
II. CHARLES H. TOWNSEND, <i>New York Aquarium</i>	1902
III. W. REID BLAIR, <i>Zoological Park</i>	1926

Board of Trustees

City of New York { HON. FIORELLO H. LAGUARDIA, *The Mayor*
Ex-officio { HON. ROBERT MOSES, *Commissioner of Parks*

Class of 1936

MADISON GRANT	HARRISON WILLIAMS
*WILLIAM WHITE NILES	MARSHALL FIELD
LEWIS RUTHERFURD MORRIS	OGDEN L. MILLS
ARCHER M. HUNTINGTON	VINCENT ASTOR
*GEORGE D. PRATT	C. SUYDAM CUTTING
CORNELIUS R. AGNEW	CHILDS FRICK

Class of 1937

GEORGE BIRD GRINNELL	BAYARD DOMINICK
FREDERIC C. WALCOTT	ANSON W. HARD
GEORGE C. CLARK	ROBERT GORDON MCKAY
W. REDMOND CROSS	KERMIT ROOSEVELT
HENRY FAIRFIELD OSBORN, JR.	GRAFTON H. PYNE
GEORGE GORDON BATTLE	JOHN M. SCHIFF

Class of 1938

HENRY FAIRFIELD OSBORN	LANDON K. THORNE
ROBERT S. BREWSTER	J. WATSON WEBB
EDWARD S. HARKNESS	OLIVER D. FILLEY
EDWIN THORNE	DE FOREST GRANT
IRVING K. TAYLOR	*H. DE B. PARSONS
HARRY PAYNE BINGHAM	GEORGE F. BAKER

* Deceased

Officers of the Society

General Offices, 101 Park Avenue, New York, N. Y.

President: MADISON GRANT

Honorary President: HENRY FAIRFIELD OSBORN

First Vice-President:

W. REDMOND CROSS

Second Vice-President:

KERMIT ROOSEVELT

Secretary: *WILLIAM WHITE NILES, 101 Park Avenue

Treasurer: CORNELIUS R. AGNEW, 82 Beaver Street, New York, N. Y.

Assistant Treasurer: THE CITY BANK FARMERS TRUST COMPANY

Executive Committee

MADISON GRANT, *Chairman*

*WILLIAM WHITE NILES

W. REDMOND CROSS

HENRY FAIRFIELD OSBORN, JR.

BAYARD DOMINICK

DE FOREST GRANT

GEORGE C. CLARK

KERMIT ROOSEVELT

J. WATSON WEBB

CORNELIUS R. AGNEW, *Ex-officio*

General Officers

W. REID BLAIR, *Director, Zoological Park*

WILLIAM T. HORNADAY, *Director Emeritus*

CHARLES H. TOWNSEND, *Director, New York Aquarium*

H. C. RAVEN, *Prosecutor*

*H. DE B. PARSONS, *Consulting Engineer*

R. L. CERERO, *Bursar*

HERMANN W. MERKEL, *Consulting Landscape Architect*

Pension Board

LEWIS RUTHERFURD MORRIS, *Chairman*

CORNELIUS R. AGNEW, *Treasurer*

LEE S. CRANDALL, *Secretary*

W. REID BLAIR

H. R. MITCHELL

GEORGE BIRD GRINNELL

W. REDMOND CROSS

CHARLES H. TOWNSEND

GEORGE C. CLARK

J. WATSON WEBB

* Deceased

Committees of the Society

Finance Committee

GEORGE C. CLARK, *Chairman*

LANDON K. THORNE

DE FOREST GRANT

W. REDMOND CROSS

*WILLIAM WHITE NILES

CORNELIUS R. AGNEW, *Ex-officio*

Auditing Committee

*WILLIAM WHITE NILES, *Chairman*

GEORGE C. CLARK

GRAFTON H. PYNE

MADISON GRANT, *Ex-officio*

Editorial Committee

MADISON GRANT, *Chairman*

W. REID BLAIR

CHARLES H. TOWNSEND

WILLIAM BEEBE

GEORGE BIRD GRINNELL

†ELWIN R. SANBORN, *Secretary*

Nominating Committee for Officers and Committees

LEWIS RUTHERFURD MORRIS, *Chairman*

GEORGE C. CLARK

GEORGE BIRD GRINNELL

Nominating Committee for Board of Trustees

CHARLES A. DANA, *Chairman*

SCHUYLER SCHIEFFELIN

ALEXANDER LAMBERT

* Deceased

† Retired

Publicity Committee

W. REID BLAIR, *Chairman*

CHARLES H. TOWNSEND

WILLIAM BEEBE

RAYMOND L. DITMARS

ROBERT GORDON MCKAY

DE FOREST GRANT

†ELWIN R. SANBORN

Heads and Horns Committee

*PRENTISS N. GRAY, *Chairman*

CHARLES STEWART DAVISON

KERMIT ROOSEVELT

IRVING K. TAYLOR

Committee on Wild Life Conservation

W. REDMOND CROSS, *Chairman*

J. WATSON WEBB

ALFRED ELY

Special Committee on Heads and Horns

IRVING K. TAYLOR

W. REID BLAIR

WILLIAM T. HORNADAY

* Deceased

† Retired

Executive Staff

Officers of the Zoological Park

W. REID BLAIR, *Director and General Curator*

H. R. MITCHELL, *Manager*

R. L. DITMARS, *Curator of Mammals and Reptiles*

LEE S. CRANDALL, *Curator of Birds*

WILLIAM BEEBE, *Honorary Curator of Birds*

CHARLES V. NOBACK, *Veterinarian*

WILLIAM MITCHELL, *Cashier*

CHARLES J. RENNER, *Civil Engineer and Constructor*

CLAUDE W. LEISTER, *Ass't to Director and Curator, Educational Activities*

MARTIN S. GARRETSON, *Curator, Heads and Horns Museum*

†ELWIN R. SANBORN, *Editor and Photographer*

Officers of the Aquarium

CHARLES H. TOWNSEND, *Director*

CHARLES M. BREDER, JR., *Assistant Director*

MARVIN C. FENSTEMAKER, *Secretary*

WILLIAM C. BENNETT, *Chief Engineer*

Officers of the Department of Tropical Research

WILLIAM BEEBE, *Director*

JOHN TEE-VAN, *General Associate*

WILLIAM K. GREGORY, *Scientific Associate*

GLORIA ELAINE HOLLISTER, *Research Associate*

JOCELYN CRANE, *Technical Associate*

Staff: Kartabo, Bermuda and Arcturus Research Work

H. P. BIGELOW

G. H. WAILES

A. L. TREADWELL

C. B. WILSON

G. C. ROBSON

G. S. MYERS

C. H. CURRAN

S. H. WILLIAMS

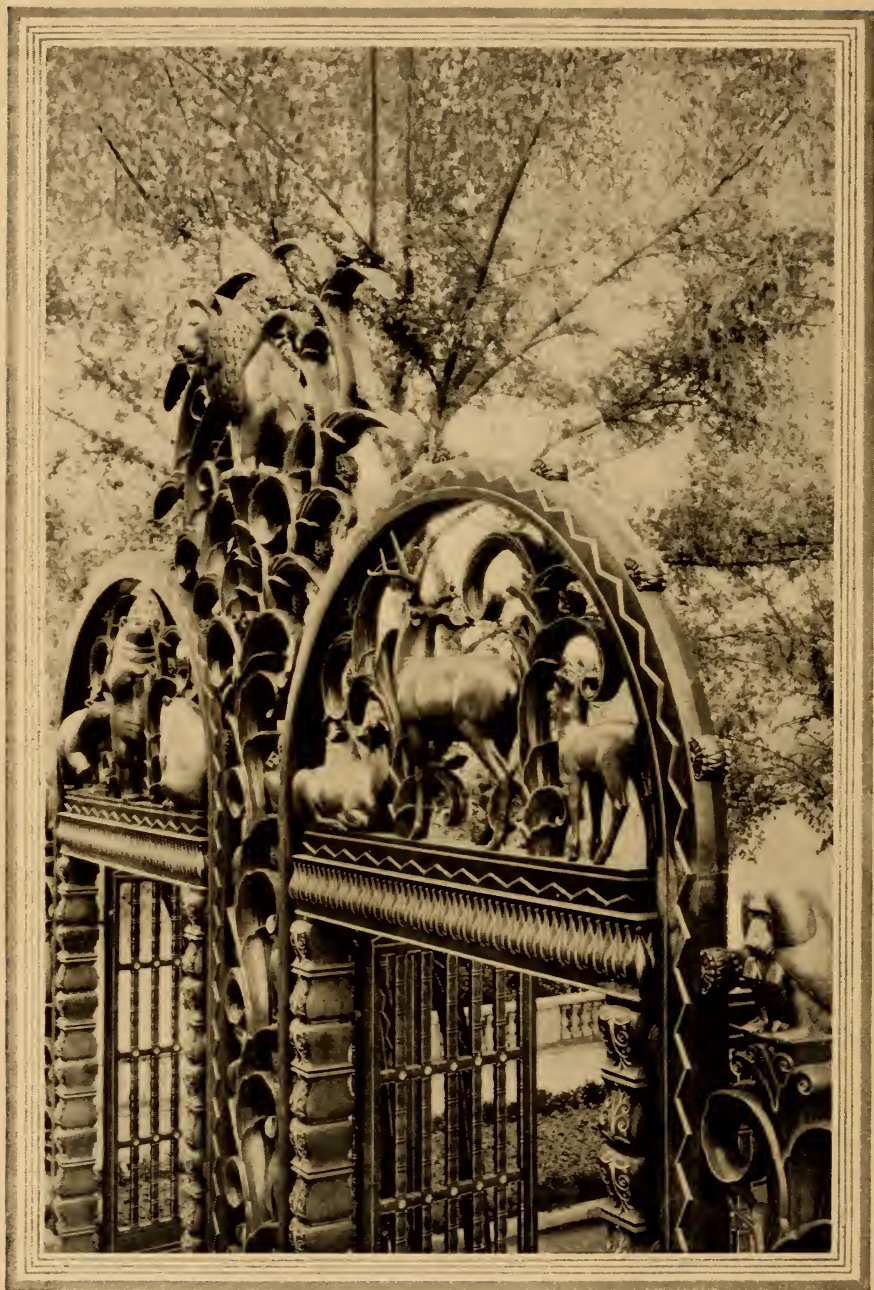
W. R. COE

P. L. BOONE

M. D. BURKENROAD

C. R. SHOEMAKER

† Retired



Sculptural details of the Rainey Gate.

REPORT OF THE EXECUTIVE COMMITTEE

MADISON GRANT, *Chairman*

THE Executive Committee through its Chairman submits herewith its Annual Report for the year 1934.

In spite of prevailing financial conditions, the Zoological Society, by strict attention to all its expenditures and exercising economy wherever possible, has managed to complete the year without a deficit, as will be noted by an examination of the report of the Treasurer.

The Society received no bequests or other additions to its General Endowment Fund during the year. Until we have an adequate Endowment Fund we shall be compelled to limit or neglect the educational and scientific opportunities that our collections at the Zoological Park and the Aquarium afford.

FINANCES

For the year 1934 the Board of Estimate and Apportionment appropriated \$262,418 for the maintenance of the Zoological Park. This was \$8,795 less than the 1933 allowance, as modified, and the reduction was in Other Than Personal Service. Later in the year, a supplemental appropriation of \$2,500 was made by the city to the Fuel and Forage Supplies account.

The Zoological Society's Income Budget provided \$70,000 to supplement the city maintenance appropriation, making a total of \$334,918.

The expenditures for the year amounted to \$323,925.67, or \$10,-992.33 within the combined budget. Of this amount \$7,494.92 reverted to the city and \$3,497.41 reverted to the Society.

For the year 1935 the city has appropriated \$261,483.92 for the maintenance of the Zoological Park and the Society has appropriated the sum of \$65,000 to supplement the city allowance, making a total budget for the Park of \$326,483.92.

AQUARIUM

The city appropriated \$68,903 for the maintenance of the Aquarium. This represented a reduction of \$625 from the amount granted in 1933. In addition, your Committee appropriated the sum of \$18,229.23 for the maintenance of the Aquarium, making a total budget of \$87,132 for the year 1934. Of this amount \$3,096.39 reverted to the City.

For the year 1935 the city has appropriated for the maintenance of the Aquarium the sum of \$67,252, a reduction of \$1,651. To supplement the city appropriation, the Society has provided the sum of \$18,000, making a total budget for the Aquarium of \$85,352 for 1935.

EMERGENCY PROJECTS

In connection with the various maintenance and new construction projects which were carried on in the Zoological Park by reason of funds allotted to us by the T. E. R. A., we were able to undertake and accomplish many improvements which had long been desired and necessary.

The funds for the purchase of materials for these projects, aside from labor, amounted to \$17,733.50. The purchases and expenditures were all made by the T. E. R. A. organization, and the funds did not pass through the Society's accounts.

For the Aquarium, the chief improvement was the construction of a large fresh-water reservoir. The complete installation was provided through funds obtained from the T. E. R. A.

DEDICATION OF RAINEY GATEWAY

The formal presentation and dedication of the Paul J. Rainey Memorial Gateway, the gift of Mrs. Grace Rainey Rogers, took place in the Administration Building on June 14, in the presence of a small company of invited guests. The address of presentation was made by Mr. Paul Manship on behalf of the donor, Mrs. Rogers. President Grant accepted the Gateway for the Zoological Society and paid tribute to Mr. Rainey as a big game hunter and a generous patron of the Zoological Park.

This Gateway, erected at the main entrance to the Zoological Park on Pelham Parkway, was designed by the distinguished American sculptor, Paul Manship. The groups of bronze animal figures are also the work of Mr. Manship. The gate-houses were designed by the late Charles A. Platt

and are constructed of huge blocks of Cold Spring granite from the state of Wisconsin.

ART GALLERY

The only addition to the Gallery of Paintings during the year was an excellent painting of an Alaska Black Wolf, the work of the late Charles Livingston Bull.

ANIMAL FUND

The Animal Fund is in excellent condition, with an adequate balance sufficient for the purchase of animals which may be available and needed to replenish our collections during the next year.

STOKES BIRD FUND

This fund was established for the protection of wild life in North America. The only expenditure made from it during the year was a contribution of \$150 to the Jack Miner Sanctuary for wild fowl at Kingston, Ontario.

TROPICAL RESEARCH DEPARTMENT

The Bermuda Expedition, which was established at the Bermuda Biological Station in April, concentrated its attention on the study of deep-sea eels and various forms of specialized larvae. By means of ingenious camera technique, Dr. Beebe and his assistants were able to photograph the life history and embryonic development in the egg of a deep-sea eel of an unknown species.

By reason of a special grant of funds from the National Geographic Society, Dr. Beebe and Mr. Otis Barton made a successful deep-sea descent in the Bathysphere, attaining a record depth of 3,028 feet. The Bathysphere was equipped with a powerful beam of light which illuminated the depths for a distance of twenty feet and afforded the observers an opportunity to obtain glimpses of strange marine life.

MEDICAL DEPARTMENT

The Medical Department at the Park already possesses a large collection of pathological and anatomical material of great value and much of this is now used for study and researches in comparative medicine. Eventually this material will be made the subject of further study and the results recorded in Zoopathologia and other publications.

EDUCATIONAL ACTIVITIES

As a result of the Society's educational activities, the Public Schools and High Schools were supplied with more natural history motion picture films and lantern slides than in any previous year. Eighty-seven schools applied for and received this service, reaching more than 50,000 students. The extension of this work in our school system is limited only by the funds at our disposal.

CONSERVATION

One of the great purposes of the Zoological Society when it was established was the protection of the wild life of America and of the world. Your Committee has stressed the desirability of establishing a sanctuary for brown bears on Admiralty Island, Alaska, and the Executive Committee has adopted the following resolution:

WHEREAS certain information relative to the brown bear of Admiralty Island, Alaska, has been submitted to the New York Zoological Society by Mr. Stewart Edward White, and others and

WHEREAS it is the opinion of this Committee that additional protection of this species is desirable and necessary to preserve it in southeastern Alaska, be it

Resolved that this Society earnestly requests the Secretary of the Interior, the Biological Survey and the Alaska Game Commission to establish a sanctuary, as large as possible, on Admiralty Island and elsewhere for the protection of the brown bear, and that sufficient funds be appropriated by the Government for proper protection by wardens of such refuges, and be it further

Resolved that a copy of these resolutions be sent to the Boone and Crockett Club requesting their co-operation to press the matter with the above referred-to authorities, using every effort to press it to a satisfactory conclusion.

The Society has contributed funds to support the work of the American Committee for International Wild Life Protection; for the study of cycles in animal life; to the Barro Colorado Biological Laboratory, Panama Canal Zone; for the investigation of the status and protection of the Roosevelt elk on the Olympian Peninsula; to the American Bison Society;

and to the Jack Miner Migratory Bird Foundation as well as to other worthy conservation organizations engaged in the preservation of wild life.

HEADS AND HORNS COLLECTION

The chief addition to the Heads and Horns Museum was the head of a moose killed by the late Albert Bierstadt in 1880 in Maine near the international border. This head was acquired through the courtesy of Mr. Horace D. Taft, Headmaster of the Taft School, Watertown, Conn., who presented it to the Collection on an exchange basis. The extreme spread of these antlers is $64\frac{1}{4}$ inches, and while it is not a record head for the species from that locality, it is noteworthy because of the wide palmation and the number of points.

Mr. Prentiss N. Gray, Chairman of the Society's Heads and Horns Committee, who had taken an active interest in the Collection, presented fine heads of Hunter's hartebeest, Coke's hartebeest and Angola lechwe.

CARNEGIE PENSION ENDOWMENT ACCOUNT

The Society has a Pension Fund donated by Mr. Andrew Carnegie, the interest from which is applied to the Fund. This is supplemented by an annual sum of \$3,665 from the Society's General Income Account and the contributions of the employees.

In addition to those who have already passed the age where they are eligible for retirement on pension, there will be a considerable number of others who will reach the retirement age in the very near future. The present income from the Pension Fund is wholly inadequate to meet the demands made upon it. The Executive Committee is deeply concerned with the problem of raising more money for this purpose in order that those who have faithfully served the Society since its organization may be adequately provided for.

The Pension Fund Endowment Account must be supplemented in the near future by at least \$100,000 in order to insure proper protection to our employees.

RECEPTIONS

The Twenty-sixth Annual Dinner to the Board of Trustees was held, through the courtesy of Mr. Oliver D. Filley, at the Knickerbocker Club,

on Thursday, December 27, 1934. Immediately after the dinner the Annual Meeting of the Board of Trustees was held.

The Spring Meeting of the Board of Trustees was held in the Administration Building in the Zoological Park on Thursday, May 10, 1934. The meeting was preceded by a luncheon and followed by the Annual Garden Party.

MEMORANDUM OF MEETINGS

1935—1936

Annual Meeting of the Society—January 14, 1936
Hotel Waldorf-Astoria

Meetings of Board of Trustees

Spring Meeting—Park (*Preceded by Luncheon*), May 16, 1935.

Annual Meeting December 27, 1935

Executive Committee Meetings

2nd Thursday Monthly

January 10, 1935	April 11, 1935	October 10, 1935
February 14, 1935	May 9, 1935	November 13, 1935
March 14, 1935	June 13, 1935	December 12, 1935

Members' Day and Ladies' Day at the Zoological Park:

May 9, 1935, 3:00 P. M.

AUDITING

The Auditors, Messrs. Peat, Marwick, Mitchell & Co., have audited and found correct the accounts of the Society.

The Auditors' Report, as well as that of the Auditing Committee, follows the Report of the Treasurer.

ACKNOWLEDGMENTS

The Directors of the Zoological Park and the Aquarium, with their respective staffs, have been diligent in maintaining both institutions at a

high standard of efficiency, and the Committee tenders its appreciation and thanks.

MADISON GRANT, *Chairman*

*WILLIAM WHITE NILES	HENRY FAIRFIELD OSBORN, JR.
J. WATSON WEBB	DE FOREST GRANT
BAYARD DOMINICK	KERMIT ROOSEVELT
WILLIAM REDMOND CROSS	GEORGE C. CLARK
CORNELIUS R. AGNEW, <i>Ex-officio</i>	

* Deceased

THE LADIES' AUXILIARY
Of the New York Zoological Society, 1934

CHILDREN'S OUTING FUND

IT is gratifying to note that with the many changes that have occurred in the past five years, because of financial difficulties among individuals and organizations, the group composing the Ladies' Auxiliary of the New York Zoological Society has continued its efforts to give day outings in fresh air and sunshine to many children. Although it is true that its activities have been necessarily curtailed during the past three years, the good work has been carried on through 18 successive years.

In the season just closed, 22 contributions were received, totaling \$331, which provided outings for 1,950 children and lunches for 350 of that number. Many applications for second outings had to be refused.

There were several trips to the Aquarium, but the Zoo always takes first place when a choice is offered. A day in the country with opportunities for nature study is appreciated by all who are privileged to participate in the outings.

Number of children taken care of	1,950
Lunches for 500 at 20c	\$100.00
Double fare (20c) for 350	70.00
Single fare for 1,600	160.00

Following is a list of contributions to the Children's Outing Fund:

Mrs. Percy R. Pyne	\$ 10.00
Mrs. Robert L. Gerry	20.00
Mrs. William B. Osgood Field	10.00
Mrs. Henry M. Tilford	25.00
Mrs. Thomas Hastings	25.00
Mrs. George F. Baker	25.00
Mrs. E. Marshall Field	50.00
Mrs. Alexander S. Webb	10.00
Mrs. William Woodward	5.00
Mrs. Walter E. Maynard	5.00
Mrs. Robert G. McKay	1.00
Mrs. Reginald Fincke	5.00

Mrs. Turnbull Wood	5.00
Mrs. Shelton Martin	5.00
Mrs. William G. Rockefeller	5.00
Mrs. De Forest Grant	10.00
Mrs. Benjamin Moore	15.00
Mrs. Cornelius Agnew	10.00
Mrs. Frank Witherbee	15.00
Mrs. Henry D. Whiton	10.00
Mrs. William V. S. Thorne	15.00
Anonymous	50.00
Total	<hr/> \$331.00

MISS PAULINE L. ROBINSON

Chairman, Ladies' Auxiliary, Children's Excursions

REPORT OF THE
DIRECTOR OF THE ZOOLOGICAL PARK

W. REID BLAIR

THE past year has been noteworthy by reason of a remarkable absence of important losses. The general condition of the collections remains at a very high standard as to the general health and exhibition value of the animals. There has been an increase of 16 species and an increase of 21 specimens over last year's census.

The two young "mystery bears" from Tibet, which were captured by Jack Young, the young Chinese-American explorer, near Jeddo Pass 50 miles west of Tatsienlu, in West China, at an elevation of 12,000 feet, have now been definitely identified as the blue bear of Tibet (*Ursus pruinosus*, Blyth.) This is the first time this rare species has ever been exhibited alive in any zoological collection. :

During the summer we received two young spectacled bears from Ecuador, the gift of A. M. Tweedy, the General Manager of the South American Development Company. The bears were captured by Indians near Zaruma, Ecuador, at an elevation of 6,000 feet.

Few spectacled bears have ever been seen or kept long in captivity because of their tendency to develop serious digestive troubles. We have now worked out a diet on which our specimens are thriving, and there is every reason to believe that they will develop to maturity.

These bears get their name by reason of the peculiar white band about their eyes which gives them the appearance of wearing goggles and a studious expression. There are also daubs of white on the nose and chest. Except for these peculiar markings, the spectacled bear resembles an immature American black bear.

In July Mr. and Mrs. Vincent Astor presented their famous orangutan Freda to the Zoological Park. Freda is very gentle and intelligent but in her playful moods she has wrecked nine padlocks, bent bars, torn up drain pipes and twisted gas pipes into the form of pretzels, and even started to tear down a brick wall. She is now on exhibition in a destruction-proof compartment in the Primate House.

Another noteworthy accession was the arrival of two giant lizards (*Varanus komodoensis*) from the island of Komodo in the Dutch East Indies, captured by the Griswold-Harkness Expedition. Unfortunately one of these creatures died soon after arrival and the other survived only a few months. The National Zoological Park at Washington also obtained a specimen at the same time which is still alive and apparently in good condition.

Returning from a trip to the West Indies, Dr. Ditmars brought back with him an interesting collection of reptiles, among which were a bushmaster, three large Orinoco turtles, blue land crabs and several vampire bats.

In the bird collection the outstanding acquisitions during the year were a Darwin rhea, two wattled ibises, a concave-casqued hornbill, three stilts and a blue-eyed cockatoo.

STAFF CHANGES

Mr. Elwin R. Sanborn, Photographer and Editor of the Zoological Society's publications, retired on pension on December 31, after having completed more than 35 years of service in the Zoological Park. Mr. Sanborn's excellent photographic studies of the wild animals in the Zoological Park and of the fishes in the Aquarium have contributed greatly to the favorable position that our collection has attained in the zoological world.

Mr. Sanborn retired with the good will and esteem of the officers of the Zoological Society and the officers and men of the Zoological Park.

Mr. William Bridges, late of the New York *Sun*, has been engaged to take over the duties of Editor and Curator of Publications. The Zoological Society is fortunate in finding so capable a man as Mr. Bridges to undertake the important and constantly increasing responsibilities connected with the publications of the Society.

Mr. H. Raymond Mitchell, Manager, who had completed more than 35 years of service in the Park, was honored by the officers of the Society and the Zoological Park staff at a meeting held in the Rocking Stone Restaurant on June 25.

It is by reason of Mr. Mitchell's enterprise and successful management of the privilege department that the profits from this department have been adequate for the purchases of animals which must be made annually to maintain the standard of our exhibits in the Zoological Park.

In recognition of Mr. Mitchell's long service, the Zoological Society presented him with a beautiful gold watch and chain and the employees of the Park gave him an electric clock and an album containing the signatures of all his associates.

EMERGENCY WORK PROJECTS

We have received from Federal sources, through the Civil Works Administration, a substantial amount of funds for labor and materials which has made it possible for us to undertake greatly needed repairs and replacements to our buildings and grounds which we could not otherwise have accomplished. With them we have been able to extend some of our water mains and replace sections of sewer, and enlarge and remodel the public comfort stations in the Lion House.

We have been assured that funds would soon be available for alterations and an addition to the Yak House which have long been contemplated. When this improvement is completed we shall gather together a collection of the wild cattle of the world, such as the gaur, banting, gayal, Cape buffalo and other species rarely seen in zoological collections. The completion of the Yak House alterations will permit us to tear down the old, unsightly bison shelters and landscape that portion of the Park.

LIBRARY

During the year our library, containing about 3,950 volumes and an almost equal number of journals and pamphlets, has been thoroughly classified and catalogued and brought up to date by a competent librarian and an assistant assigned by the Civil Works Service, without cost to us. The improved status of the library has greatly enhanced its value as a reference room for the members of our staff and others who make use of its facilities for purposes of research in natural history subjects.

A NEEDED BUILDING

What the Zoological Park really needs is a separate house for the great apes. I should like to see a new style of circular house, equipped with roomy cages and a central laboratory for studying the intelligence of the apes, because a great deal of work remains to be done in this field of comparative psychology. With such a circular building it would be possible to carry on experiments with one animal while the others looked

on, and then we might discover and record how much these intelligent animals acquire by observation.

The gorilla, chimpanzee and orang-utan are out of the class of the other primates, and keeping them as we do is like keeping bright students in school classes with morons.

EDUCATIONAL ACTIVITIES

At the beginning of each school term the Principals of the various schools in New York City are sent a list of our visual instruction films and lantern slides available for school use.

The number of requests for the use of this material has been steadily increasing and we have been unable to supply the demand, especially in regard to the 16 mm. films which are largely replacing the standard films in the schools because the latter require a fireproof booth and a licensed operator.

Eighty-seven different schools applied for this service, reaching more than 50,000 pupils.

A venture which proved successful was the holding of four lecture demonstrations at the Zoological Park on the subject of wild animals in captivity. This course was sponsored by the American Institute and offered only to outstanding student members of the various science clubs in high schools.

ATTENDANCE

Judged wholly by the figures representing visitors to our collections, the Zoological Park still maintains its important position as one of the great popular institutions of our city.

The total attendance for 1934 and the corresponding figures for 1933 are as follows:

	1934	1933
January	109,574	156,990
February	68,175	133,358
March	145,801	113,774
April	396,139	347,139
May	447,696	340,150
June	342,771	324,758
July	336,758	323,263

August	347,113	305,693
September	317,203	294,895
October	205,733	269,164
November	161,844	161,756
December	90,833	82,966
	<hr/>	<hr/>
	2,969,640	2,853,906

DEPARTMENT OF MAMMALS

RAYMOND L. DITMARS, *Curator*; JOHN TOOMEY, *Head Keeper*

The research work relating to the habits of the Vampire Bat, begun in 1933, extended through the past year. This work has brought out a number of characteristics new to the history of the species. Investigation and study by research laboratories in Panama and Trinidad have identified the vampire as a carrier of a dangerous blood organism which affects horses, and as the vector of paralytic rabies. The studies at the Park now relate to establishing the longevity of this sanguineous bat, its breeding periods, and the amount of blood it requires. Our specimens are fed defibrinated blood obtained from one of the slaughter houses in the city.

A series of motion pictures, prepared under great difficulties in 1933, and showing a vampire stalking about in quadrupedal fashion, lapping its meal of blood with a long, specialized tongue, and other manifestations, produced broad interest. The pictures were exhibited at a number of scientific meetings. It was suggested, however, that these records, starting in their indication that the actual habits of the vampire had not been previously described, should be checked with more than a single specimen. Hence another trip to the tropics was arranged during 1934.

It was very gratifying, on arrival, to find that four Vampire Bats had been captured in the Diego Martin caves in Trinidad.* These were successfully brought to New York, and later three additional specimens were shipped North as the gift of Dr. Herbert C. Clark, Director of the Gorgas Memorial Laboratory in Panama. Every one of these seven bats checked the various manifestations recorded with the single specimen of the preceding year.

Another phase of investigation with these bats concerns the study of an alleged anticoagulant in the saliva of the animals, which is thought to be the cause of wounds inflicted by vampires bleeding for many hours

* These specimens were captured by Mr. Arthur M. Greenhall and Mr. William Bridges.

after the bat has left its victim. Dr. Barry G. King, of Columbia University, is collaborating in this work.

The Curator and his associates are indebted to Professor F. W. Urich, of the Imperial College of Tropical Agriculture, for many courtesies extended while in Trinidad. As a gesture of appreciation, a print of the motion picture reel on bats and a series of enlarged photographs were presented to Professor Urich.

Several important specimens were acquired during the year. Among these were two South American Spectacled Bears, donated by Mr. A. M. Tweedy; a large female Orang-Utan, donated by Mr. and Mrs. Vincent Astor; and a Brazilian Jaguar, the gift of Mr. Hiram R. Mallinson. There were but few important purchases, including two Leopards, one Bengal Tiger, two Tibetan Bears, a Malayan Wild Dog, and an Eland.

The history of our pair of Lion Marmosets has become of exceptional interest. The species is allegedly delicate in captivity, but this pair has thrived in a sun cage in the Reptile House since 1932 and has bred three times. Twins were born on April 26, 1933, and attained full size within a year. Twins were again born on February 22, 1934, and a little more than four months later, twins were born for the third time. Thus it appears that gestation is short and development of the young surprisingly rapid for members of the primate group.

During the year, the Society donated and shipped a fine male Bison to the Warsaw Zoological Gardens, a Mandrill to the Zoological Gardens in San Antonio, Texas, and a male Axis Deer and series of monkeys to the new Central Park Menagerie.

Following is a census of the mammal collection, taken on December 31, 1934:

	<i>Species</i>	<i>Specimens</i>
Primates	33	80
Chiroptera	2	13
Carnivora	42	108
Pinnipedia	1	2
Rodentia	11	29
Ungulata (Artiodactyla)	48	241
(Perissodactyla)	12	17
Proboscidea	2	3
Edentata	3	6
Marsupialia	6	20
Total	160	519



An American elk, or wapiti (*Cervus canadensis*), in a quiet pool in the Zoological Park.



A fine young bull from the American bison, or buffalo (*Bison bison*), herd in the Park.



This handsomely formed big-horned mountain sheep (*Ovis canadensis*) has attained full growth since he has been in the Park.



Goodnatured destructiveness is characteristic of Freda, the orang-utan (*Pongo pygmaeus*) given to the Park by Mr. and Mrs. Vincent Astor.



Slow of growth, this African two-horned rhinoceros (*Rhinoceros bicornis*) is still far from its full weight.



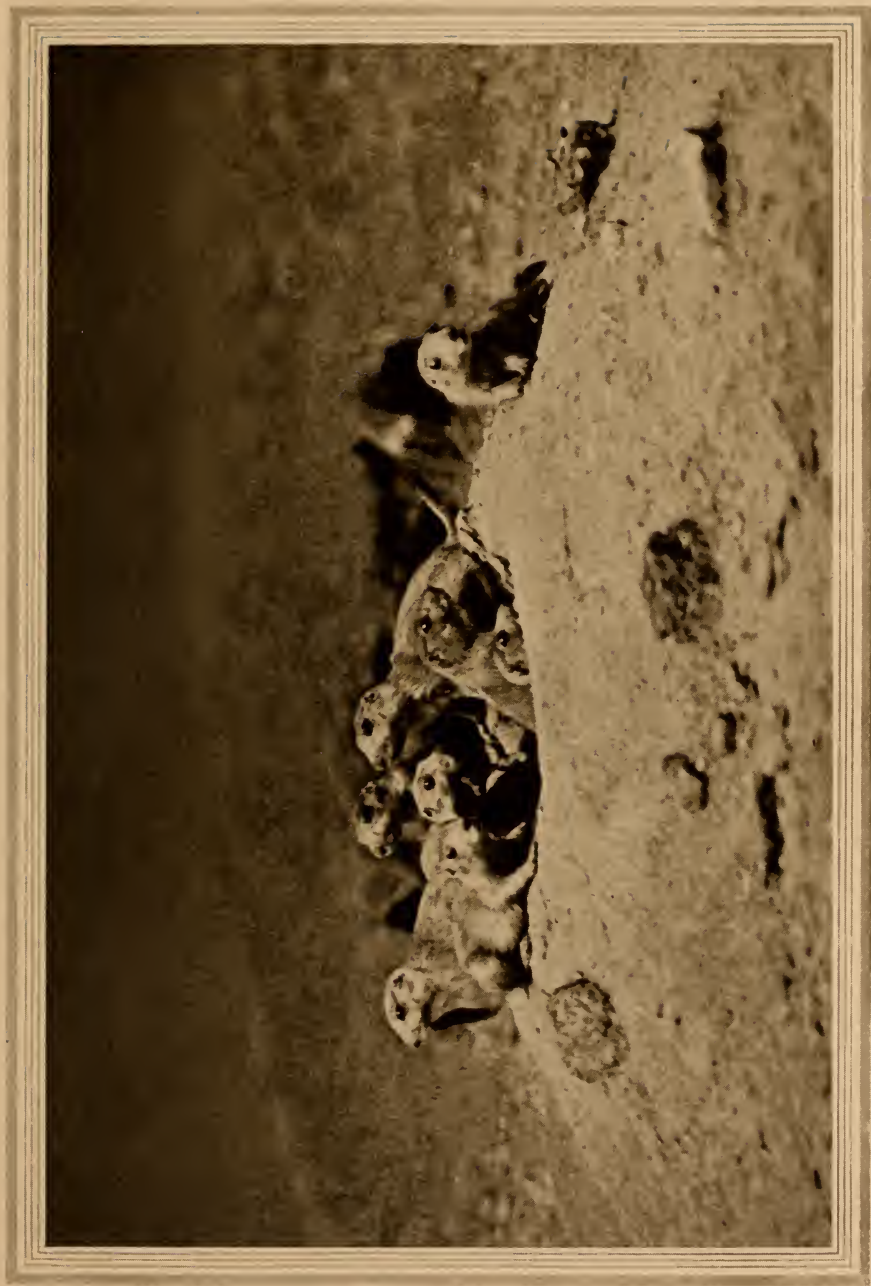
"Judy," the lioness (*Felis leo*) in a quiet mood.



A sleepy time in the Lion House.



The Park has thirty-one Himalayan tahrs (*Hemitragus jemlahicus*) at present, and has disposed of at least fifty to other institutions in the past twenty-five years.



A prairie dog family (*Cynomys ludovicianus*) comes out of its burrow on a sunny day.



Upper—The potto (*Perodicticus potto*) of West Africa is nocturnal and largely carnivorous. Its body is about the size of a cat. Lower—The hutia, or Cuban tree rat (*Capromys pilorides*), a heavy-bodied tropical rodent about the size of a raccoon.



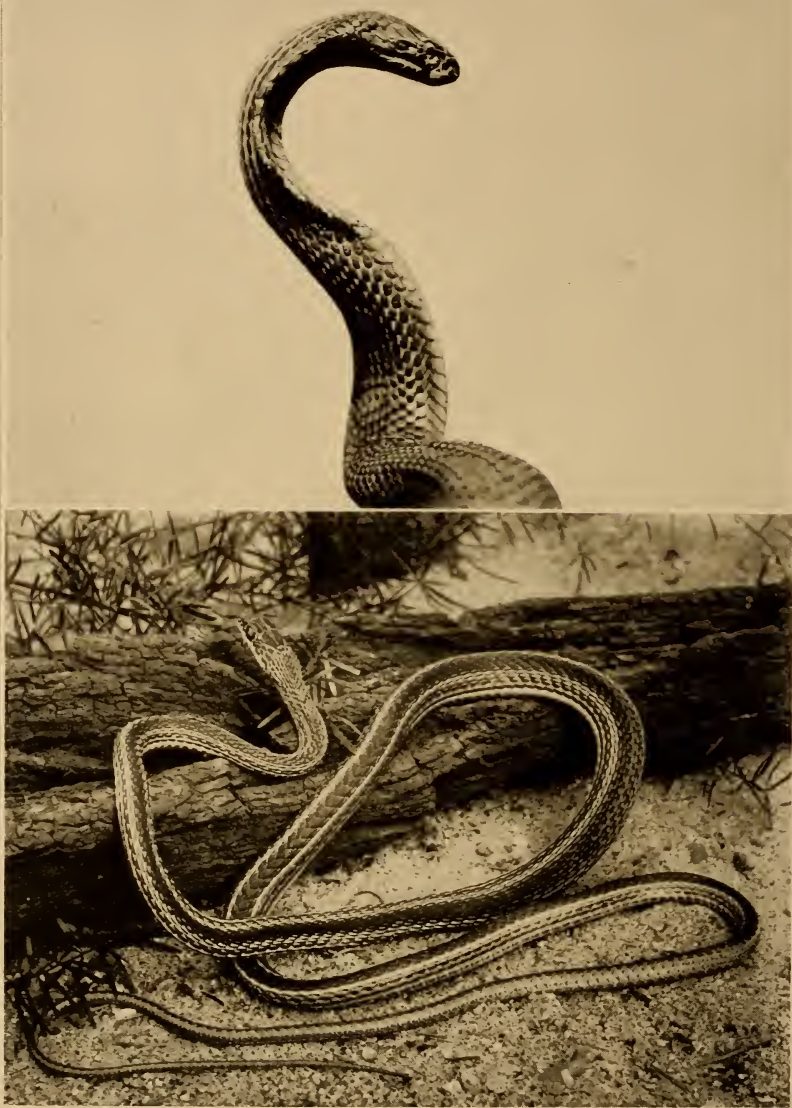
Upper—The sloth bear (*Melursus ursinus*), of India and Ceylon, is one of the few bears found in tropical latitudes. Lower—The European brown bear (*Ursus arctos*) and its subspecies have a wide range.



The nylghai (*Boselaphus tragocamelus*) is a large and handsome Indian antelope.



The largest of all the living lizards are the Komodo monitors (*Varanus komodoensis*) from the island of Komodo in the Dutch East Indies, attaining a length of twelve feet and a weight of three hundred pounds.



Upper—With the krait and the Russell viper, the Indian cobra (*Naja naja*) causes approximately 20,000 deaths annually. *Lower*—The striped racer (*Coluber taeniatus*) is a swift and slender snake from the arid districts of the southwestern States.



Upper—The bird spider or Trinidad tarantula (*Mygale* sp.) devours insects and small reptiles and can inflict a painful but probably never fatal bite to humans. *Lower*—The West Indian land crab (*Callinectes damae*) is attractively colored in blue tints. It is used for food.



The giant centipede of Trinidad (*Scolopendra gigantea*) attains a length of fourteen inches and its bite may be fatal.



A mute swan (*Cygnus olor*) floating along with "all sails set."



The beautiful American egret (*Casmerodius albus egretta*) and a companion in the Flying Cage, the Indian black-headed ibis (*Threskiornis melanoccephala*).



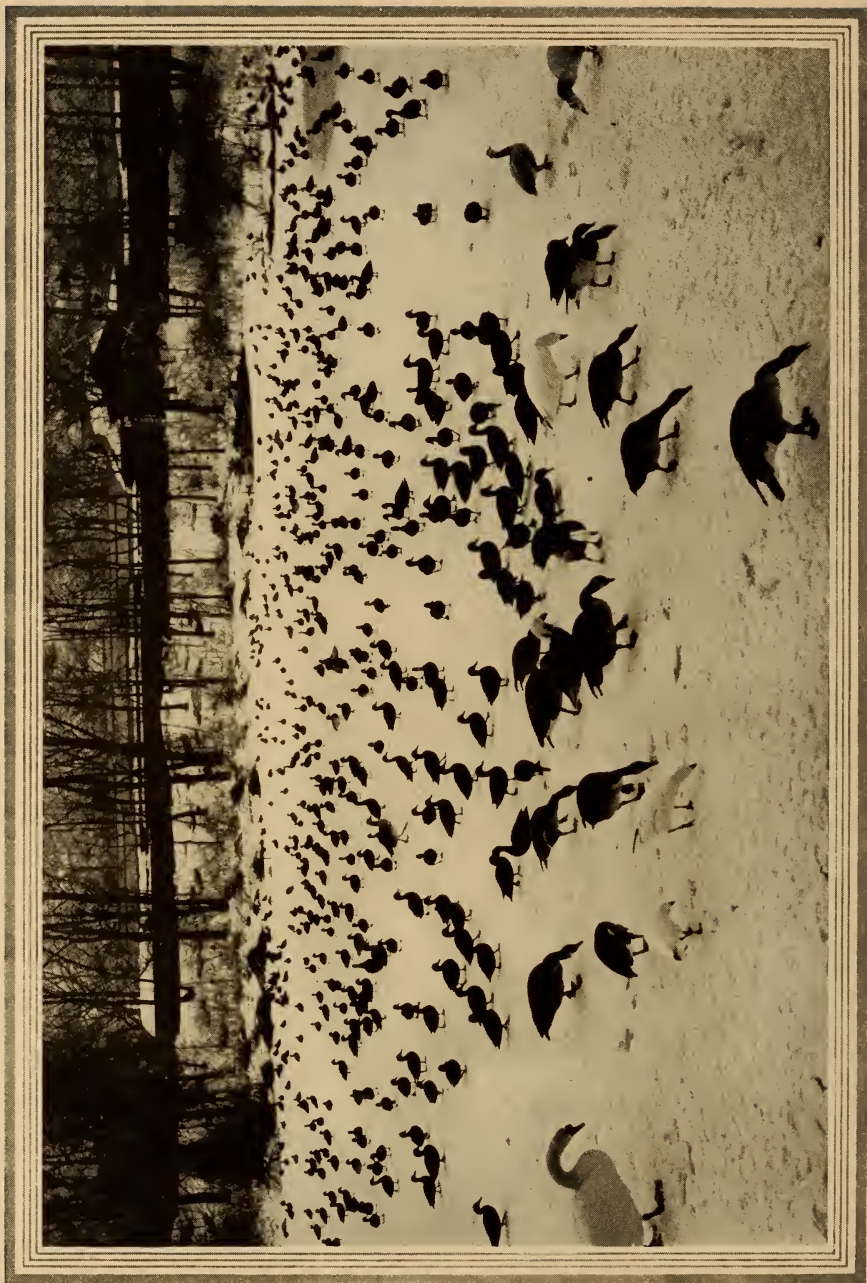
The Cabot tragopan (*Tragopan caboti*) from southeastern China, handsomely patterned in black and fawn.



Mallard ducks (*Anas platyrhynchos platyrhynchos*) often raise their broods on the water in the Park.



One of the oldest birds in the Park is the goliath heron (*Ardea goliath*). It came from Amsterdam in 1912.



A small part of the flock of black ducks the Park entertains every winter on the Wildfowl Pond.



Upper—Northern eared vulture (*Torgos tracheliotus nubicus*). Lower—The Arctic horned owl (*Bubo virginianus subarcticus*).

DEPARTMENT OF BIRDS

LEE S. CRANDALL, *Curator*; WILLIAM BEEBE, *Honorary Curator*;
SAMUEL STACEY, *Head Keeper*

In point of bird arrivals in the market, 1934 was the best of recent years. Probably there was little increase in actual numbers, but species were many and varied. In 1933, only ten kinds of birds new to the collection were obtained; in 1934 the list totalled 25. During the past five years, American zoological gardens have kept up their collections of birds with great difficulty. There seems to be some indication that foreign sources of supply, badly disorganized since the war, may again be commencing to function.

Notable among the year's accessions were a fine male North African Ostrich (*Struthio camelus*) and a male Darwin Rhea (*Rhea darwini*). The latter, which represents the smallest, rarest and most beautiful species of this South American group, is a particularly tame and attractive specimen.

We also obtained an excellent pair of Horned Screamers (*Anhima cornuta*). This screamer, which is characterized by a horny, spur-like projection on the crown, in addition to those on the wing butts, is notoriously difficult to keep. However, we are hopeful that the fine condition in which this pair was received will be inducive to a life longer than the usual span in captivity.

Among the real rarities were two Hammer-heads (*Scopus umbretta bannermani*) and two Wattled Ibises (*Bostrychia carunculata*). The former, which are small, somberly-colored relatives of the storks, have not previously been seen alive in this country. The ibises, too, appear to be a first importation. They come from Abyssinia and are distinguished by a thin fleshy wattle that hangs from the throat.

It is not unusual for land birds to drop aboard ships, often far at sea. In 1934, two rather rare species were received at the Zoological Park following such incidents. One was a Western Lesser Kestrel (*Falco naumanni naumanni*) which fell exhausted on the deck of the SS *Exira*, 500 miles east of the Azores. The other was an European Oyster-catcher (*Haematopus ostragaleus ostragaleus*) which visited the SS *American Farmer*, 1,500 miles west of England, or somewhere about mid-ocean.

In October, two specimens of the very rare Brazilian Stilt (*Himantopus melanurus*) were secured from a dealer. A few days later, a fine

hand-reared American Black-necked Stilt (*Himantopus mexicanus*) was received, in exchange, from Karl Plath, the well-known Chicago bird painter. These three birds, representing the most delicate and graceful group of shore birds, are a valuable addition to our collections.

Mr. Robert Mensing, engineer of the SS *Santa Clara*, of the Grace Line, presented the Society with a total of 30 birds, brought in three shipments. These came chiefly from western South America, a region seldom visited by dealers' agents. Mrs. Lillian Pierre continued her contributions of last year, presenting us with a total of 26 birds during 1934.

Of late years, the problem of colored picture labels, used particularly in the Large and Aquatic Bird Houses, has been a difficult one, since funds have seldom been available for the purpose. We were highly appreciative, therefore, of the kindness of Mr. Charles Kuhn, who executed and presented 20 fine bird likenesses, in oils, painted on our regular label blanks.

The success of glass-fronted exhibition aviaries for small birds, in various parts of the world, led us to undertake some experiments in this field during the year. A cage in the Glass Court, one of the divisions of the Large Bird House, was equipped with a panel of plate glass. The problem of reflection proved a difficult one, making it evident that extensive alterations would be required to make further installation completely satisfactory.

Valentine Hoffman, a Keeper at the Aquatic Bird House, was retired on pension. Mr. Hoffman entered the service of the Society in 1907 and came to the Bird Department in the following year, so that he had a service record of more than 27 years. The absence of men of such experience is always keenly felt, and their places are not easily filled.

CENSUS OF BIRD DEPARTMENT

December 31, 1934

<i>Order</i>		<i>Species</i>	<i>Specimens</i>
Struthioniformes,	Ostriches	1	3
Rheiformes,	Rheas	2	2
Casuariiformes,	Cassowaries and Emus	2	9
Tinamiformes,	Tinamous	1	4
Sphenisciformes,	Penguins	1	1
Pelecaniformes,	Pelicans, Cormorants, etc.....	7	12

Ciconiiformes,	Hérons, Ibises, Storks, Flamin- gos, etc.	27	58
Anseriformes,	Swans, Ducks, Geese and Screamers	49	292
Falconiformes,	Vultures, Hawks and Eagles.....	23	35
Galliformes,	Quail, Pheasants, etc.	61	129
Gruiformes,	Hemipodes, Cranes, Trumpet- ers, Rails, etc.	23	36
Charadriiformes,	Plovers, Sandpipers, Gulls, etc....	20	51
Columbiformes,	Pigeons, Doves and Sand-grouse	43	128
Cuculiformes,	Touracos and Cuckoos	5	8
Psittaciformes,	Parrots, etc.	79	173
Strigiformes,	Owls	7	12
Caprimulgiformes,	Goatsuckers, etc.	1	1
Coliiformes,	Colies	1	3
Trogoniformes,	Trogons	1	1
Coraciiformes,	Kingfishers, Hornbills, etc.	13	16
Piciformes,	Barbets, Toucans and Wood- peckers	17	21
Passeriformes,	Perching Birds	339	693
Total.....		723	1,688

Summary: Orders, 22; Species, 723; Specimens, 1,688.

SPECIES OF BIRDS NEW TO THE COLLECTION

Received During 1934

- West Indian Green Heron—*Butorides virescens maculatus* (Boddaert)
 Hammer-head—*Scopus umbretta bannermani* Grant
 Wattled Ibis—*Bostrychia carunculata* (Rüppell)
 White-winged Scoter—*Melanitta deglandi* (Bonaparte)
 Western Lesser Kestrel—*Falco naumanni naumanni* Fleischer
 Brazilian Stilt—*Himantopus melanurus* (Vieillot)
 Heuglin's Courser—*Rhinoptilus cinctus cinctus* (Heuglin)
 Japanese Pigeon—*Columba ianthina ianthina* Temminck
 Red-fronted Barbet—*Xantholaema haematocephala* (Müller)
 Golden-fronted Barbet—*Capito auratus* (Dumont)
 Argentine Kiskadee Flycatcher—*Pitangus sulphuratus bolivianus*
 (Lafresnaye)

Rosy-patched Shrike—*Rhodophoneus cruentus cruentus* Hemprich & Ehrenberg

Abyssinian Buff-breasted Sunbird—*Cinnyris venustus fazoqlensis* (Heuglin)

Abyssinian Scarlet-chested Sunbird—*Chalcomitra cruentata* (Rüppell)

Red-winged Weaver—*Anaplectes melanotis* (Lafresnaye)

Blue-shouldered Mountain Tanager—*Compsocoma somptuosa* (Lesson)

Western Tanager—*Piranga ludoviciana* (Wilson)

Pacific Grassquit—*Volatinia jacarina peruviansis* (Peale)

Abyssinian Siskin—*Spinus citrinelloides citrinelloides* (Rüppell)

Argentine Siskin—*Spinus ictericus* (Lichtenstein)

Oriental Bullfinch—*Pyrrhula pyrrhula griseiventris* Lafresnaye

White-cheeked Warbling Finch—*Poospiza personata* (Swainson)

Black-headed Finch—*Phrygilus gayi atriceps* (Lafresnaye & d'Orbigny)

Lark-like Finch—*Phrygilus alaudinus* (Kittlitz)

DEPARTMENT OF REPTILES

RAYMOND L. DITMARS, *Curator*; JOHN TOOMEY, *Head Keeper*

The most valuable accessions during the year were three Giant Monitors, or "Dragon" Lizards, *Varanus komodoensis*, captured on the island of Komodo, in the Dutch East Indies, and brought back by the Griswold-Harkness Expedition. The history of these spectacular and largest of all existing lizards was discouraging with regard to the possibility of keeping these specimens as a living exhibit. One died very soon after arrival, and another succumbed to intestinal inflammation about five months later. The third specimen, in the meantime, had been sent on to the National Zoological Park in Washington, D. C., and from latest reports was languishing with similar symptoms. Of six specimens of the Komodo Monitor which have been exhibited in Europe, five have died. A small example remains on exhibition in Amsterdam. The specimens arriving here were slightly over eight feet long and weighed close to 100 pounds each.

The reptile collection was greatly enriched the past summer by a series of tropical specimens obtained from several sources. The Curator made a trip to the West Indies, stopping briefly at a number of the islands. Primarily, this was intended to be a vacation jaunt, but interest in gathering reptile specimens resulted in more than two dozen cases being brought North on the return trip of the Furness liner *Nerissa*.

The most interesting specimen of the series was a six-foot Bushmaster, captured on the Cruze Oil Leasehold by one of the engineers. It had prowled into an engine room, evidently in search of rodents, as the jungle bordering this clearing had burned during the dry season and the rodents had scattered.

Bushmasters have never been known to feed voluntarily in captivity, and it was a problem to overcome this obstacle and keep the specimen alive. The prominence that had been accorded this snake by the newspapers was surprising, the publicity sweeping from coast to coast, and it was therefore most desirable to keep the snake on exhibition as long as possible. Its cage was regulated to tropical temperature and humidity, and for the first time with a captive specimen, this Bushmaster successfully cast its skin and emerged in a vivid coat of pinkish-brown with cross-bands of black. Seven successive times it was taken from the cage and force-fed with freshly killed rats. It gained in weight and remained the high attraction of the Reptile House for almost three months. One day it was seen to be acting strangely and the next morning it was found dead in its cage.

Post-mortem examination revealed a rare type of tropical parasite which had invaded the delicate tissue of the lungs, causing a condition of oedema which was responsible for death. The results of the investigation by the Park's pathologist, Dr. Noback, and the preparation of color photographs of these parasites, compensated, in a scientific way, for the loss of a specimen which had brought many visitors to the Park.

Other specimens brought up from the tropics included a particularly large fer-de-lance, large boas, tree boas, the attractive golden tree snake, anacondas, rat snakes, lizards, and specimens of the fresh-water turtle of the Demarara region.

Of particular interest to visitors during the past year were the "Blue" Tree Vipers collected by Lawrence T. K. Griswold and Edward H. Harkness on the island of Komodo. These specimens remain in fine condition. Four Egg-eating Snakes arrived from South Africa, and their actions astonished visitors. The maximum diameter of the largest specimen was not much over a quarter of an inch, yet these serpents, by systematic struggle and stretching, swallowed pigeon eggs whole. A series of knife-like processes in the throat cut the shell into sections, and the snake swallowed the contents of the egg and regurgitated the fragments of the shell. At the beginning of the operation, the feat appeared incredible and impossible.

In July we were visited by Mr. F. W. FitzSimons, Director of the Port Elizabeth Museum in South Africa. Mr. FitzSimons has been carrying on noteworthy work in the application of attenuated snake venom to the control of epilepsy and also in producing antivenomous serum for the treatment of the bites of poisonous reptiles of Africa.

A series of reptiles was shipped to the Toledo Zoological Park in September. Included, were some of the reptiles and amphibians collected in Trinidad and the West Indies. The gift was occasioned by the opening of a new Reptile House in the Toledo Zoological Park.

A scientific article entitled "A Review of the Box Turtles" was prepared by the Curator and published in *Zoologica*. This is the first detailed treatment of the genus *Terrapene* in more than thirty years, and response from various scientific sources was very gratifying.

Following is a census of the reptile collection, taken on December 31, 1934:

Class Reptilia:	Species	Specimens
Loricata (Crocodiles and Alligators)	2	35
Squamata (Suborder Sauria—Lizards)	9	25
(Suborder Ophidia—Snakes)	48	120
Testudinata (Turtles and Tortoises)	19	112
Class Amphibia:		
Salientia (Frogs and Toads)	8	37
Total	86	329

A condensed census of the animals in the Zoological Park, taken on December 31, 1934, is as follows:

	Species	Specimens
Mammals	160	519
Birds	723	1,688
Reptiles and Amphibians	86	329
Total	969	2,536

REPORT OF THE VETERINARIAN

CHARLES V. NOBACK

The animal collections, as a whole, were maintained in excellent condition during the past year. The most important of the relatively few losses were a gayal, an eland, and a Hartman mountain zebra. Among

the losses in the small mammal group are included eight opossums, 16 spear-nosed bats, six raccoons, six marmosets, 26 monkeys, and several squirrels.

The fact that there has been an increase in the number of opossums and raccoons brought to the Park during the past year would seem to indicate that these two species are becoming more numerous in the vicinity of New York. A number of the opossums and raccoons, which had been injured along the roads by automobiles, were brought to the hospital by sympathetic persons.

The most serious loss to the collection was the male gayal which died after a brief period of illness. This rare specimen of the Bovidae came from northeastern India and weighed 1,165 lbs. at the time of death. A number of healed ulcerated areas in the form of plaques about an inch in diameter were found scattered throughout the small intestines. It succumbed to an acute attack of peritonitis following a perforation of the small intestines, resulting from the breaking down of one of the old ulcers.

The eland died as the result of an attack of acute indigestion.

A case of dystocia caused the loss of the Hartman mountain zebra.

Old Age: The following are some of the animals which succumbed to the effects of old age:

1. An old collared peccary (*Dicotyles tajacu*) which was a mature specimen when added to the collection 25 years ago. It was found to have been affected with emphesema of the lungs (asthma) and a degeneration of its heart muscle.

2. One of the Mongolian wild horses (*Equus przewalski*), which was received at the Park 19 years ago.

3. Among the Cervidae, or deer family, a number of very old specimens included a 13-year-old mule deer buck (*Cervus macrotis*), a sika deer (*Cervus sika*) which had been brought to the Park more than 12 years ago, and two old red deer.

Infectious or Contagious Diseases: There were no serious outbreaks of infectious or contagious diseases during the year except the loss of five lion marmosets (*Lentocebus rosalia*) which died from the effects of a condition resembling the common cold in man.

Neoplasms or Tumors: A 23-year-old yak cow (*Poephagus grunniens*), the mother and grandmother of some of the members of our yak collection, was found to have had a large peri-uterine spindle-celled

fibroma weighing more than nine pounds, as well as a number of calcified areas scattered through the liver. Since she was originally imported from Tibet, it is quite certain that the calcified areas were the remains of an old parasitic infestation.

Parasites and Parasitic Diseases: A number of specimens of parasites were collected during the year and preserved for specific identification. Included among them were some ticks, nematodes and cestodes.

An interesting case of parasitism was that of a female opossum (*Didelphys virginianus*) which carried four young in its pouch. She was heavily infested with nematodes in her stomach, several large thorn-headed worms (*Echinorhynchus*) in the small intestines, as well as a number of Physaloptera, a type of round worm provided with hook-like teeth with which to attach itself to the mucosa of the intestines. The mother opossum did not survive this heavy infestation, which was acquired in its native habitat. Three of the young were successfully raised.

Three cases of parasitism among the lower forms are noted, two of them being found in the two Komodo lizards (*Varanus komodoensis*) and one in the bushmaster (*Lachesis muta*.)

The loss of the Komodo lizards, one of which measured 7 feet, 7 inches, and weighed 83 lbs., was due to the fact that they had been suffering from a chronic necrotic enteritis in addition to a heavy infestation of tapeworms. The character of the chronic enteritis in itself was a sufficient reason why these primitive lizards had to be hand-fed and why it was not possible for them to survive. The skin of the Komodo lizards was also infested with ticks (*Amblyomma robinsoni*). Dr. R. A. Cooley, entomologist at the Public Health Laboratory at Hamilton, Montana, identified these ticks. The lizards were not normal, healthy specimens.

The bushmaster, a venomous reptile whose skin pattern resembles that of a rattlesnake but which does not possess a rattle, lived for a short time in captivity. After it died, examination by the Veterinarian revealed that it had been heavily parasitized. Its body cavities contained a large number of linguatulids identified by Dr. H. R. Hill of Los Angeles as *Porocephalus clavatus* Wyman. These parasites are a degenerate form of mite, whose body is about 1½ inches long and whose head is provided with four claw-like hooks. Its stomach was filled with many short nematodes and the duodenum was heavily infested with tapeworms.

Interesting cases: An injury to one of the Virginia deer (*Odocoileus virginianus*) resulted in a compound fracture of the tibia and fibula of

the right hind leg. After placing the patient under general anesthesia, the broken bones were set and the leg placed in a splint. Because of the highly nervous nature of wild deer, it is quite difficult to keep them confined long enough to obtain satisfactory healing and reunion of fractured bones. In this case, however, the fractures united successfully and the deer made a complete recovery during the two months that it was treated and cared for at the animal hospital. It completely recovered the use of its limbs and is again back on exhibition.

The gorilla, Janet Penserosa, which came to the Park on October 31, 1928, continues to remain in good health and to make steady gains in weight. She now weighs 128 lbs., having gained 110¾ lbs. in six years, an average gain of a little more than 18 lbs. a year.

Two Tibetan bear cubs suffering from the effects of malnutrition were received at the hospital during the early part of the year. They were weak and unable to use their hind legs. After being fed on an adequate diet with a good supply of calcium and phosphates with Vitamin D, their condition improved rapidly. They are now on exhibition.

COOPERATION WITH SCIENTIFIC INSTITUTIONS

1. A representative collection of duplicate specimens of intestinal parasites was given to the Veterinary College at Cornell University, Ithaca, N. Y. This collection is being used for demonstration purposes in the courses on Parasitology by Dr. D. W. Baker.

2. Specimens of nematodes and linguatulids were presented to the Museum of Comparative Zoology at Harvard College, Cambridge, Mass., for the collection of Dr. Thomas Barbour.

3. Various ticks obtained from new specimens were sent to Dr. R. A. Cooley, Entomologist at the Rocky Mountain Laboratory of the United States Public Health Service at Hamilton, Montana.

4. Several linguatulids were sent to Dr. H. R. Hill of the Los Angeles Museum for his collection.

5. Dr. E. B. Gresser of the Department of Ophthalmology of the New York University Medical School continued his studies of the comparative anatomy of eyes from different animals at the Park.

A contribution on the Histology of the Echidna Eye by E. B. Gresser and C. V. Noback was published in the Journal of Comparative Morphology.

DEPARTMENT OF ADMINISTRATION

H. R. MITCHELL, *Manager*; WILLIAM MITCHELL, *Cashier*

After adoption of the City Budget for 1933, as a measure of further economy the Board of Estimate reduced the Zoological Park maintenance allowance by \$30,000, of which \$23,000 was applied to Personal Service. We met this situation by a system of enforced absences without pay, but the arrangement was so disturbing to efficient operation of the Park that it had to be abandoned at the end of the year and the 1934 salaries reduced proportionately to absorb the amount of the reduction.

The 1934 City Budget contributed \$262,418 for maintenance of the Zoological Park, which was \$8,795 below the 1933 City Budget as modified. All of this reduction was in Other Than Personal Service items.

The Zoological Society's 1934 Budget provided for supplementing the City's maintenance appropriation for the year to the extent of \$65,000, making a total of \$327,418.

Toward the close of the year it was found that the allowance for Forage and Veterinary Supplies (food for animals) and for Fuel would be insufficient to carry us through the year, and application was made to the City for an additional allowance of \$2,500 for these accounts, which was granted. This supplemental appropriation was more than offset by savings in Personal Service which reverted to the City, because of reductions in rates of positions which became vacant, and for time losses and payroll deductions during the year.

After approval of the Budget, the City as an additional measure of economy adopted a furlough provision affecting all employees, which for our force amounted to about \$5,000. The Society very generously increased its maintenance allowance by \$5,000 to cover the furlough deductions applied to its employees, which with the City's supplemental grant of \$2,500, referred to above, made the final figures for the year's maintenance \$334,918.

Expenditures were \$323,925.67, or \$10,992.33 within the available figures. Of this sum, \$7,494.92 reverted to the City, the greater part of which was because of the furlough deductions, and \$3,497.41 reverted to the Society.

For the coming year, the City Budget provides \$261,483.92, a reduction of \$934.08 compared with the original allowance for 1934.

The Rainey Memorial Gateway and such reconstruction of walks, roadways and planting surrounding it thereby made necessary, was completed and the new building formally occupied and the gates thrown open for visitors on May 10, 1934. As no special appropriation had been made for these improvements and no funds were available in the maintenance Budget, the Executive Committee authorized the work to be carried on at the expense of the Society's Income Account. The amount expended for this purpose was \$1,037.19.

Accounts and Audit: There were no developments in relation to Accounts or accounting during the year worthy of note. In connection with the various T.E.R.A. Projects being carried on by their forces, funds for materials and equipment for their use were allotted to the extent of \$17,733.50 in 1934. These purchases and expenditures were all handled by the T.E.R.A. organization, however, and did not pass through the Society's books.

Quarterly audits of our accounts were made by Peat, Marwick, Mitchell & Co. and their report, as well as the report of the Auditing Committee, will appear in connection with the Treasurer's Reports.

Zoological Park Relief Association: The Relief Association for the benefit of employees of the Zoological Park was organized on July 31, 1901, and it has now been in operation for one-third of a century. We believe that Members of the Society will be interested in brief information about this small benefit organization of employees. Benefits totaling \$16,840 have been paid, covering 170 separate benefits. The employees of the Park have contributed in dues \$12,805.75 and the Zoological Society has given \$1,980. Below is a brief financial statement of the Association:

FINANCIAL STATEMENT OF THE ZOOLOGICAL PARK RELIEF ASSOCIATION

July 31, 1901 (Date of Organization) to December 31, 1934

RECEIPTS

Dues and Initiation Fees	\$12,805.75	
Interest and Dividends, Income from Funds	5,173.56	
Contributed by the New York Zoological Society	1,980.00	
Miscellaneous Collections, Gifts, Fines, etc.....	932.29	<u>\$20,891.60</u>

EXPENDITURES

Death Benefits to Beneficiaries	\$16,840.00	
Expenses account Printing, etc.	217.97	
Expenses account Entertainments	220.43	
Refunds to Resigning Members.....	198.95	
Treasury Balance December 31, 1934 (As of 1/3/35):		
Cash in Bank, Investments and Approved Loans	3,414.25	\$20,891.60

Attendance: While attendance for the year was 115,734 in excess of 1933, an increase of 4 per cent, we were about 30,000 below the three million mark and 75,000 below the record year of 1932. Total attendance of visitors since the Park opened was 68,738,465 on December 31, 1934.

Purchase and Sale of Animals: The somewhat reduced maintenance appropriations under which we have been operating for the past several years have made it undesirable to attempt more than to maintain our collections. The purchase of animals has, therefore, been somewhat restricted. Expenditures for 1934 totaled \$9,267.86 against receipts available for the purpose, including the Cadwalader Animal Account, of \$16,011.99. Receipts from the sale of specimens were \$667.50.

Privileges: The results in combined Privilege operations for 1934, as compared with 1933, made an excellent showing, considering the general business conditions which prevailed throughout the year, as will be noted by the following figures:

While the year's attendance increased only 4 per cent, the gross receipts increased 14 per cent, and net profit 151 per cent, after charging off depreciation at figures slightly above the 1933 depreciation charges. The net profit percentage increase, which appears entirely out of proportion, is explained by the fact that 1933 receipts were so greatly reduced as to do little more than cover operating expenses and depreciation charges, and net profits were reduced to the lowest point in many years.

The comparative increases in attendance and gross receipts seem to indicate the average Park visitor has more to spend on an outing than during the previous year, and we believe we may confidently expect a reasonable further improvement during the coming year.

Privilege Improvements: During the past year no effort was made to continue the program of alterations and improvements that had been

under way in various sections of the Privileges for several years. Reduced receipts and diminishing profits, as a result of the general conditions prevailing and uncertainty about results in 1934, did not justify continuing these operations.

We feel, however, that the increase in volume and profits we are now able to report at the close of the year warrants the resumption of needed improvements on a modest scale. Immediate needs for the purchase of animals and probable requirements in the next year or two are safely provided for in the surplus funds available for the purpose at the close of the year, as set forth in the Treasurer's Statements appearing elsewhere.

The Shelter Pavilion near the Fox Dens, which provides accommodation for basket parties who bring their lunches, has not for some years been equal to the demands. It should be remodeled to provide for present needs and reasonably increased demands in future. We have found the least expensive and most satisfactory way of expanding the service at our Refreshment Pavilions is by the addition of open terraces. The facilities at the Lunch Pavilion should be extended to double the present capacity, and a service room added in the rear of the soda fountain, similar in size to that in the rear of the Tea House, which was built several years ago.

Soda Water: The receipts in this division of the Privileges showed an increase of 20 per cent over last year, which made it possible for us to show a substantial profit for the season, as compared with a small loss in this division in 1933.

Some replacement of old equipment was necessary in our plant during the year. Small individual compressors were installed for automatically maintaining temperatures in hardening and holding cabinets for ice cream, for refrigerating room maintenance, and for operating an ice cream freezer of the latest type. These replacements will effect economies in operation and maintenance that should materially add to future profits, and will help to bring our plant up to date and aid in effecting improved service to patrons.

Parking Space and Bus Terminal: We are able to report an increase of more than 16 per cent in receipts for automobile parking over 1933. A review of the receipts from this operation since the opening of the Parking Space in 1928 shows an increase each year over the previous year, despite unfavorable general conditions since 1929, with the exception of

the year 1933 when there was some decline as compared with the previous year.

We have been unable to take care of the demand for parking at this location on Sundays and holidays during the spring and fall, notwithstanding the fact that all available parking space on streets bounding the Park was fully occupied. We have managed to get through these days to date by using the unoccupied space in the northeast portion of the Park just South of Pelham Parkway, which we refer to as the Bronxdale Parking Space.

Additional Parking Facilities: In several previous reports of this Department in the past, we have called attention to the necessity of making provisions to increase parking facilities, and owing to the urgency of the situation we feel that it is necessary to bring the matter up again. The space suggested for additional parking lies South of Pelham Parkway, North and East of Lake Agassiz, and South of the road along the Park boundary now under construction as a T.E.R.A. Project. This space, which, so far as we can see, is the only possible area available for this use in the Park, is fortunately almost entirely concealed from view from Pelham Parkway by a rocky ridge and a fringe of trees along most of its parkway boundary. At the only point where it is visible, a narrow planting border would screen it quite successfully. The only present objection to its use is the distance to Park exhibits over existing roads and walks outside of the Park. We have utilized this space for emergency parking for several years very largely to get the reaction of visitors on this point, and the criticism has confirmed our belief that it is unfair to ask visitors to walk such a great distance to reach exhibits. We believe it is entirely practical to overcome this objection by constructing a foot bridge across the River below the Lake Agassiz Falls. It is possible by this plan to reach Baird Court and the principal Park exhibits with even less walking than is necessary from the Buffalo Parking Space now in use.

We have not gone into the construction details of this project to the extent of making any estimates of its probable cost, but from a study of the parking operations at the Buffalo Parking Space, it seems certain it can be financed in the same manner as a Privilege operation. We earnestly urge careful consideration of the proposal at this time, before the parking problem becomes more acute.

Rocking Stone Restaurant: The year 1933 marked a low point in the net results at the Restaurant for many years, so far as receipts and profits

were concerned. For the year 1934 we are able to report an increase in receipts of 23 per cent, which enabled us to show a very satisfactory profit.

During the year a much needed repair was made to the stucco and timbered East gable of the Restaurant building.

Repairs to the North pavilion of the building have been needed for several years, but it has not been possible to finance the work. Arrangements are being made to provide for this repair as a T.E.R.A. Project, and it is hoped the work can be completed early in the coming year.

Boating: This section of the Privileges made a gain of nearly 10 per cent in receipts over 1933, while net results showed an increase of more than 20 per cent.

The cost of maintaining the equipment was somewhat higher, as many of the boats required extensive repairs because of their long service.

The usual general schedule of repair work was carried on after the close of the season, and our equipment will be in excellent condition by the opening of next season.

Boat House Restaurant: On account of the very unfavorable condition for Restaurant operation in 1933, it was thought advisable not to open the Boat House for the season of 1934. The plan for seasonal operation which has been followed for several years at the Boat House will, no doubt, be renewed for the coming season. Several changes in the vicinity of the Boat House will be recommended, and it is believed will be of assistance in improving the net results of the season's operation. These will be reported upon fully in separate recommendations to the Director.

Gate Receipts: Gate receipts at the entrances on pay days showed an encouraging improvement over the previous year, in which they were at the lowest point in many years. It was possible, because of this improvement in receipts, to increase the working time of our Improvement and Repair force financed from this source, and before the end of the year to restore it to full time.

It is hoped that the full time schedule for these men can be maintained for the coming year.

The increase in 1934 over 1933 was more than 32 per cent.

Guide Books: The sale of Guide Books in 1934 increased 18 per cent over 1933. The current edition (23rd) was exhausted late in the year, and a new issue of 27,000 was printed and delivered in December under the title "Komodo Dragon Edition." No serious revision was made in the

new issue. The Guide Book has not been extensively revised since 1925. A complete and thorough revision should be planned and carried on in the near future, so that the copy will be available well in advance of printing of the next edition to permit of a careful selection of illustrations and the preparation of new plates where necessary.

Miscellaneous Publications: We feel it would be desirable, certainly from the standpoint of the Gatemen, to have something new to sell in the nature of new publications, but it does not seem wise to bring out new features under present conditions.

Our Publication Department has an extensive assortment of half-tone reproductions from beautiful photographs of most interesting animals, that we believe should be made available to the public in the form of albums at reasonable prices, and we are looking forward to their reproduction and sale through the Privilege Department at the proper time.

Riding Animals: This branch of the Privileges was the only one that did not show increased receipts over 1933 figures. There was a decrease of 10 per cent. It is difficult to make a satisfactory explanation, compared with the results in other branches. There seems to be no lack of interest in the riding animals on the part of the average child. We are glad to report another season without an accident worthy of note, and to record the fact that more than one million children have used the riding animals since this Privilege has been in operation, without a single serious accident.

Baby Carriages: There was an increase of 13 per cent in receipts, and of the same percentage in profits in this operation over 1933. This equipment was completely repaired and repainted by our own Repair force at the end of the year. We had an opportunity to add to the equipment by the purchase of 50 rebuilt baby cabs after the close of the Chicago World's Fair, which will be delivered early in the coming season.

The writer wishes to make grateful acknowledgment of the recognition accorded him by the Zoological Society during the past year on completion of 35 years of service with the Park, at which time the Society presented him with a beautiful Hamilton watch and suitable chain.

He also wishes to add his grateful thanks to all members of the Park force for the electric chimes clock and leather-bound scroll containing their autographs, presented on the same occasion.

DEPARTMENT OF FORESTRY AND CONSTRUCTION

CHARLES J. RENNER, *Chief Constructor & Engineer*; FRED W. MINGST, *Assistant Constructor*; MICHAEL E. O'KEEFE, *Assistant Forester*;
GEORGE SKENE, *Head Gardener*

During the past year the maintenance and construction work of the Park was carried on in the usual manner by the Park forces. There was also considerable work done by men allotted by the Emergency Relief Bureau and Emergency Work Bureau working under Park supervision, who worked on various jobs in conjunction with the Park forces.

The regular Park force performed its general work of hauling, cleaning, maintaining, repairing and replacement, which among other things included ash removal, moving supplies and carting away debris; items amounting to several thousand tons. It also included numerous urgent and routine jobs daily occurring in a large Park. The more important routine and special jobs performed by the groups during the year were as follows:

Fences: Eight hundred feet of two-inch pipe railing was constructed along the Bronx River West Walk and 75 feet of seven-foot range fence was erected close by the new Rainey Memorial Gate at Pelham Parkway. The swing fences over the Bronx River, but beneath the Linnaeus Bridge at Pelham Parkway, and the Bronxdale Bridge at Boston Road, were extensively straightened and rebuilt because of damage from the heavy ice of last winter. An overhauling and general repairing was given to the range fences about the Zebra, Small Deer, Sika Deer, Red Deer, Llama, Mountain Sheep and Buffalo corrals and ranges, and to the wild fowl preserve about Lake Agassiz which included replacing old posts and setting 110 new posts in concrete together with stretching about 600 feet of new wire. The small fences around the Tortoise Yard, the Turtle Pool and the Children's Playground were straightened and repaired. About 400 guard posts were set in concrete and 5,000 feet of new guard wire was strung.

Cages: Beside general repairs made to the cages in the Lion House, Large Bird House, Eagle Aviary and the Mammal House, there were erected new sheet iron sides and a new bar front to a cage in the Primate House for the accommodation of the large Orang presented to the Park, while another cage was rebuilt at the Reptile House to accommodate the Komodo Lizard by placing new wire on the inside section and sheet iron on the section outside of the building. Along the series of outside cages

at the Pheasant Aviary, new sheet iron lower partitions were installed. The Polar Bear cages were strengthened with braces and bars because the young bears have become mature. The large outside South cage of the Primate House is being rebuilt with bars replacing the wire sides, preparatory to being used in the spring to exhibit the Gorilla and its companion, the Chimpanzee. These latter, like the bears, have passed the infant stage and are now growing large and strong. At the burrowing rodents' cages, the wirework was repaired.

Walks: The heavy frost of last winter did considerable damage to the walks and made necessary a good deal of patching. Besides this patching, a finishing surface of Tarvia was given to the Bronx River West Walk and Cope Lake Walk, amounting to about 4,000 square yards. The triangle at the Service Road near the Pony track was repaved to the circular garden and also resurfaced. The Jungle Walk was paved, widened and resurfaced with cinders.

Masonry Work: During the spring the stone work of the Elephant House was repointed. New cement water pools were built in the cages adjacent to the West side of the Aquatic Bird House. Grouting and cement repairs were made at the Reptile Island moat, Administration Building cornice, Small Deer House cage gutters, Elephant House floor, Large Bird House dome cage, Bear Den floors and Polar Bear den gutters. Entirely new cement floors were laid in three of the Hospital Building cages and also in the keepers' room of the Primate House. At the Italian Garden the East steps and terraces were repaired with new sidewalk plates and by relaying the patterned brick.

Heating and Roofs: Two new boilers were installed, one at the Ostrich House and one at the Boston Road Comfort Station. Both replaced boilers which failed because of corrosion and age. New sheet iron flues from furnaces to chimneys are necessary in the buildings every few years. This year they were replaced entirely in the Boston Road Comfort Station, the Small Deer and the Ostrich Houses, and in part in the Administration Building, Lion and Yak Houses and the Nursery Greenhouse. The stoves and pipes of the entrance buildings were also examined and repaired. The heating pipes in the Large Bird House and in the Nursery Greenhouse cellars were covered with asbestos insulation and parts of the heating systems consisting of pipes were replaced. Repairs were made to the roofs and skylights of the Administration Building, Large Bird, Lion, Primate, Reptile and Small Deer Houses and the Hospital building.

This work consisted of relaying glass and copper, applying roof cement, painting, bracing, soldering and similar repairs. Some of the roofs are becoming old and in need of constant extra care.

Plumbing: Beside the usual work of setting up in the spring and dismantling in the fall, all outside drinking fountains, animal pools and comfort stations, and repairing many leaks in water mains and stoppages in sewers and drains, the plumbers installed new toilets in the Large Bird, Elephant, Lion, Primate and Ostrich Houses for the keepers' use. At the same time the toilet rooms were renovated by the painters. The women's toilet in the Service Building was also renewed and renovated completely. A system of fire protection was installed in the Primate House with standpipes and fire hose. The large cast iron drains leading from the elephant stalls were taken down, cleaned and replaced. These drains clog up every few years from substance gradually deposited in the pipes by the liquids passing through. A new women's comfort station was installed at the Lion House.

Carpentry: New roof coverings of asphalt shingles and Genasco roofing were placed upon the East Wild Horse barn and the Red Deer shelter, respectively. Four new benches were built around the trees in front of the Heads and Horns Museum on Baird Court. The Nursery buildings and greenhouses were extensively repaired and an alteration was made at the caretaker's house. Besides this, the carpenters made eight bay tree tubs, a large propagating bench in the conservatory, a Marmoset cage, seven animal crates, about 400 signs and labels, and repaired many doors, windows, benches, floors and other jobs necessary in the many Park structures. They also prepared wood forms and lumber for the construction jobs.

Painting: The interiors of the Ostrich, Mammal, Small Deer and Elephant Houses were painted. Also the Lion House Comfort Station, men's division. All the inside woodwork of the Large Bird and Primate Houses was grained and varnished, together with the renovating of the keepers' and feed rooms. The entrance doors of all animal buildings were grained and painted. About 150 Park rest benches were brought in, repaired, painted and set out again. Many glass and plaster repairs were made. The exteriors of eleven frame buildings in the deer ranges and the outside woodwork of the Aquatic Bird House were painted. The fences of the Small Deer, Buffalo, Yak and Eland corrals and all the boundary fences, with the exception of Bronx Park South, were painted.

The Flying Cage, Eagle Aviary, Primate House outside cages, entrance gate houses, outside woodwork on the Antelope House, and the fences around the Sea Lion pool, the Prairie Dog enclosure and the deer ranges were all painted and renovated. Tin roofs and guard wire posts throughout the Park were also painted.

Gardening and Forestry: The flower beds at the Italian Garden were planted with pansies in solid yellow color in the spring. Later they were removed and followed with lantanas of orange color. Cannas in variety were used along the borders and walks. The other gardens in the park were planted as usual with a great variety of plants. Special plantings were made at the Rainey Memorial Gate where yew, arbor-vitae and other evergreens were planted, together with pachysandra, and the area where the upper bear dens were removed, was treated much the same. In both places new gardens were made on sites formerly occupied by structures and concrete. About 300 flowering shrubs and young trees were planted throughout the Park in positions which were formerly occupied by trees that had died, or which were chosen to fill in bare spots. Care was taken to retain the Park's natural appearance at these places. Many of the Park trees are labelled. All the plants, trees, and shrubs used were propagated and started in the Park Nursery and Greenhouses. Another task performed was the spraying of the trees and the removal of caterpillar nests. The Park is now in possession of its own power spray apparatus, which aids very much. A survey was made of the trees this year by both the Federal and the State authorities for Gypsy moth and Dutch elm disease. There was but one tree affected with the elm disease and this was cut down and entirely incinerated. So far as we know the Park was free of the Gypsy moth. New surveys, however, are now being made. Pruning and removal of dead trees and stumps was carried on as usual, a new power saw making possible much more than the usual speed. In the conservatories and animal buildings the palms and tropical plants were cared for and cleaned periodically. The bay trees, which are among the best in the country, were pruned during the summer and in the fall removed to their winter house at the Nursery. The leaves of the Park were gathered in the fall and piled at the Pony Field to be treated and resolved into leafmold. Several hundred tons of manure in the same locality were similarly treated and turned for later use. About 250 cubic yards of these substances were made up last year as in previous years and were carted and spread upon the gardens and lawns as fertilizer for flower beds and

compost piles, or as mulch and fertilizer for new plantings and lawns. The usual mowing, watering and cleaning was attended to.

Miscellaneous: A new approach was designed and built to correspond to the setting of the new Rainey Memorial Gate at the Concourse and a new comfort station was built on the women's side of the Lion House. The Jungle Walk was repaved and the land at Bronxdale Landing was supplied with a system of drains and regraded so as to stay dry. This plot was used all fall for the Municipal Theatre performances. Besides this, a chimney was rebuilt at the Antelope House, cement copings were placed around the Feed Barn, a system of drains was laid at the Bronx River West Walk and many other smaller jobs were done. These works were accomplished in conjunction with the Works Division of the Emergency Relief Bureau, which furnished men and much of the materials. There are several other jobs now in progress under the same arrangement and the Park is receiving much benefit on this account.

DEPARTMENT OF EDUCATIONAL ACTIVITIES

CLAUDE W. LEISTER, *Curator*

The work of this department was featured during the past year by an increased demand for its services. The number of classes visiting the Park was greater than ever before and the total number of children included in such groups was considerably in excess of the attendance reported for 1933.

As heretofore, a record was kept of all classes and other groups visiting the Park. Gate registration slips show that 345 classes came from the schools of New York City and 380 classes from districts outside the city. Local school groups included 12,989 children and the outside groups 15,089. The attendance of local groups did not come up to that of last year and individual groups were also smaller, averaging 35 pupils. There was a marked increase in the number of non-school organizations, such as Boy Scouts and Girl Scouts, and 167 such groups accounted for a total of 6,898 children.

No request blanks for docent service were sent out to schools during the year, partly for reasons of economy and partly because such a procedure made no apparent increase in the number of requests received from Junior High Schools and High Schools, for which the service was primarily intended.

A number of High School classes came to the Park during the late afternoon—after school hours. Several teachers stated that they were not permitted to bring their classes during school hours, in spite of the fact that they were biology classes and therefore directly interested in our exhibits. It seems that a strict adherence to this policy will prevent many classes from visiting the Park, especially during fall and winter months, when only classes from nearby schools can reach our gates much in advance of closing time if they do not leave the classroom before 3 o'clock.

During the month of March, and again in the early winter, an interesting series of lecture-demonstrations was held at the Zoological Park in co-operation with the American Institute. Eight Saturday mornings were given over to Junior Members who took the two courses offered. One was entitled "Care of Wild Animals in Captivity" and the other "A Study of Wild Animals." Both courses proved to be very popular and it was found necessary to limit the registration to 30 members for each course. About 25 High School and Junior High School clubs, affiliated with the Institute, were represented at these meetings.

The morning sessions, in charge of the Curator, were held in the Reptile House, Small Mammal House, Chef's Headquarters, and the Hospital. Informal discussions in each of these buildings called attention to various requirements of animals in captivity, especially in regard to food and quarters. At the Hospital the classes examined exhibits showing the cause of death in some of our animals, articles of equipment were demonstrated, and findings made in solving some of the research problems carried on by the Hospital staff were brought to their attention.

Time is well spent with groups such as these. The impressions and knowledge gained by student members, most of them with a keen interest in the natural sciences, is bound to help create in their minds a sympathetic and lasting interest in animal life.

During the fall so many schools requested the use of our visual instruction materials that it was found necessary to secure additional office help. A new record was set up for the number of pupils seeing this material, teachers reporting a total of 50,235. By scheduling the available sets of slides and films it was found possible to satisfy practically all requests that were received. A new lantern slide subject, "The Water Birds of New York City and Vicinity," completed last year, was made available for school use. We were able to furnish two sets and they proved to be very popular, a number of teachers adding favorable com-

ment to their report. With the exception of one occasion, the breakage of slides was negligible. The set concerned was returned improperly packed and accompanying directions had been completely ignored. Record cards show that our slides were shown to 34,176 children during the year.

In the past few years the use of 35 mm. motion picture films for school and classroom use has gradually been discontinued, due, locally, to reasons mentioned in previous annual reports. This tendency has been especially noticeable during the past year when requests for the use of this film were received from only three schools. The number of generally available subjects in 16 mm. films is constantly increasing and since their use is not hedged about by restrictions and prohibitions, it is easily understood why the old standard film is no longer an important teaching aid.

Unfortunately, the almost universal acceptance of 16 mm. films found us with only a few subjects in that width and we have been utterly unable to meet the demand. During the coming year we hope to be able to furnish some of our more popular and instructive 35 mm. subjects in this narrow-width film. "Animal Life in a City Park," formerly available only in 35 mm. film, was reprinted on 16 mm. stock and two copies were made available during the year. Excerpts from this film were shown at the January, 1935, meeting of the Zoological Society and were well received. All prints of our 16 mm. films were in almost constant use during the school term and teachers reported that they had been seen by 16,059 pupils. This number is somewhat under that reported for a year ago, the decrease being entirely due to the almost complete cessation of demand for the old standard films.

Only a small proportion of all groups from schools and other organizations entering the Park during the year are escorted by this department. Plans are under way for making a definite contact with all such groups as they enter our gates and it is hoped that we can thus obtain a much wider distribution of ideas and facts concerning the many advantages we have to offer to those interested in nature education.

Outside of previously mentioned activities, directly concerned with the public school system, the Curator was called upon for several lectures before other organizations. An article on "Wild Sheep and Goats of the World," requiring considerable reference work because of many recent changes in nomenclature, was prepared for the January-February

number of the Zoological Society Bulletin, and another, on "North American Deer," for the *World Almanac*.

NATIONAL MUSEUM OF HEADS AND HORNS

M. S. GARRETSON, *Curator*

During the past year the Museum's collection has been enlarged and improved by the addition of a number of fine specimens acquired by donation, purchase and exchange. Some of them have long been admired by big game hunters and through their efforts have been donated by the owners to the National Collection.

One of them, a head of a Black Mountain Sheep, donated by Dr. W. H. Kirk of Pittsburgh, Penn., is an exceptionally fine specimen of *Ovis stonoi*, having symmetrical horns measuring 44 inches in length.

The late Mr. Prentiss N. Gray donated from his private collection three fine heads: an Angola Lechwe, a Hunter's Hartebeest, and a Coke's Hartebeest, all three shot by him in 1929 while on a hunting expedition in Africa.

The Museum has been fortunate in obtaining a Canadian Moose head, known as the "Bierstadt" head. The outstanding feature of this head is the well developed brow palms, the largest measuring 13 and one-half inches in width, which is thought to be a world's record for a Canadian moose. This animal was shot by Mr. Albert Bierstadt in 1880 on the border line between the Province of New Brunswick and the State of Maine. It was obtained for the National Collection through the courtesy of the officers of the Taft School at Watertown, Conn., who kindly agreed to part with it in exchange for another head.

Two heads of the smaller Asiatic Argali, representing the Shapo or Ladak Urial and Persian Urial, were purchased from Rowland Ward of London.

Other donations were a pair of West African Bongo horns, 31 and one-quarter inches in length, from Mr. Paul Bransom, and a Texas Pronghorn head with horns measuring 16 and one-quarter inches in length, from Mr. Maury Kemp of El Paso, Texas.

Mr. Melvin Shearer of Rifle, Colorado, deposited the mounted head of a Black Mountain Sheep he had killed on Red Fern Lake, British Columbia. The right horn measures 45 inches in length and the left is

slightly damaged. However, it is a fine specimen and well up on the list of record horns.

The educational value of this collection is emphasized by the continued and increasing interest taken in it by great numbers of school children and representatives of various institutions throughout the world.

DEPARTMENT OF PUBLICATION AND PHOTOGRAPHY

WILLIAM BRIDGES, *Editor and Curator of Publications*; ANNIE R. NEWMAN,
Assistant; EDWARD R. OSTERNDORFF, *Photographer*;
EDNA E. RICHARDSON, *Assistant*

As the name implies, this department bears the double duty of editing the Society's publications and maintaining its extraordinarily fine and valuable collection of photographs of animals that have entered the Park. The past year did not make any unusual demands upon the department, but both functions were performed regularly.

Since the first official photograph, labeled simply "Alligator Eating," was entered in the photographer's negative book in November, 1899, more than 14,000 photographs have been taken in the Park or on expeditions which the Society's photographer accompanied, and are available to scientific institutions, writers, artists, newspapers and all the host of individuals and organizations having need of them. And, indeed, the call for pictures is an almost daily occurrence, and it is rarely impossible to meet the demands if the big picture albums are searched.

That those albums are so complete, and their contents almost invariably remarkable not only for detail but for artistic presentation, is chiefly due to Mr. Elwin R. Sanborn, the head of this department for thirty-five years. When he retired at the end of 1934, it was with the knowledge that his skill and taste had endowed the Society with an unrivaled collection of animal photographs.

The publications of the Society—the Bulletin, Zoologica, the Guide Book—are, of course, the principal outlet for its photographs, although outside individuals and organizations make use of many scores of them for miscellaneous purposes in the course of the year. Frequently the appearance of a striking photograph in the Bulletin will result in a call for it by other publications and in the past year the London Illustrated News, for example, reprinted a majority of the photographs that illustrated Dr. William K. Gregory's article on "Nature's Wild Dog Show" in the July-August, 1933, number of the Bulletin.

While the Membership in the Society continued in 1934 to show the slight decline that has marked its course during the depression years, the subscription lists of the Bulletin maintained themselves very well. At present the Bulletin has subscribers in 25 States and 20 foreign countries, and is sent on an exchange basis to 31 foreign countries.

Photography: The arrival of three Komodo Monitors during the year afforded an opportunity to add several striking negatives to the collection, although a Monitor had been photographed on a previous occasion when one was displayed at the Park. The following new negatives were made in 1934:

Mammals: Sloth Bear, Spear-nosed Bats, Vampire Bat, Komodo Monitor, American Bison, Big-horn Mountain Sheep, Himalayan Tahr, Llama, Bongo, American Elk, European Brown Bear, Indian Elephant, Chimpanzee, Suleman Markhor, Potto, Tibetan Bear Cubs, Malayan Wild Dog, Orang-utan.

Birds: Banding Black Ducks, Horned Screamer, Mute Swan, Black-shouldered Peafowl, Javan Peafowl, Shoebill Stork, Night Hawk, Black-necked Stilt, Goliath Heron, Wattled Starling, Wild Fowl Pond, Ariel Toucan, Long-tailed Bird of Paradise, Wood Thrush, Great Green Caticue, Magpie Tanager, Horned Grebe, Yellow-headed Amazon Parrot, Spix Macaw, Cheer Pheasant, Cabot Tragopan, Guinea Fowl, Ring-billed Gull.

Reptiles: Spotted Terrapin, Galápagos Tortoise, Bushmaster, Muhlenberg's Turtle, California Wood Turtle, Spotted Amphisbaena, Rat Snake.

Invertebrates: Black Spider, West Indian Land Crabs, Crayfish.

Pathological: Raccoon (cataract), Cuban Crocodile, Lion Marmoset, Hairy-eared Bear, Komodo Monitor, European Red Deer, Fibroma tumor from Yak, Common Marmoset, Abdominal cavity of bushmaster, Vaporizing cabinet, Grant Zebra, Fallow Deer (malformation of jaw).

General: Flying cage construction, New walk (West bank of Bronx River), Sidney Franklin (bull fighter and party), map of the world, group of mammalogists, herpetologists and ichthyologists, Paul J. Rainey Memorial Gate, Garden party, Art class from Children's Aid Society, Painting of Black Wolf by C. L. Bull, Black Oak tree uprooted by storm, Jungle walk, Dr. Raymond L. Ditmars with insect cage, Reptile House interior, Dr. A. R. Dafoe and party, Hole in inclosure made by gorilla, Scene of accident at Lion House, Red Maple tree injured by vandals,

Painting by Carl Rungius, Portable theatre at Bronxdale Landing, Baird Court, Lion House, Buses at Parking Space.

Negatives and prints made during 1934 may be summarized as follows:

New negatives filed	202
Prints for albums	202
Prints for publication	487
Prints for private use	986
Prints for replacements	97
Enlargements	54
Lantern slides	69

The usual six numbers of the Bulletin were published, and indexes were compiled for 1932 and 1933.

Zoologica numbers issued during the year included Vol. 12, No. 10, Clearing and Dyeing Fish for Bone Study, 16 pages, 4 figures, by Gloria Hollister; Vol. 15, No. 3, Nematode Parasites of Mammals, 12 pages, by Gervase W. McClure; Vol. 16, No. 4, Deep-sea Fishes of the Bermuda Oceanographic Expeditions, 98 pages, 35 figures, by William Beebe; Vol. 17, No. 1, A Review of the Box Turtles, 44 pages, 41 figures, by Raymond L. Ditmars; Vol. 18, No. 2, The Fur Seal of the Galápagos Islands, 16 pages, 11 figures, by Charles H. Townsend; Vol. 18, No. 3, Ecology of an Oceanic Fresh-water Lake, Andros Island, Bahamas, 32 pages, 10 figures, by C. M. Breder, Jr., Index of Volume 9 compiled.

Although it perhaps intrudes on events that should be dealt with in the report for 1935, it might be stated here in connection with Zoologica that Volumes which have been kept open since, in one case, 1926, were closed off at the end of 1934 and indexes are being prepared. In the future, only one Volume will run at a time.

The Annual Report was issued in the spring of 1934, with no changes beyond the routine ones.

In its mailing department, this office handled some 27,000 pieces of mail during the year, a decline of about 3,000 from the number handled the previous year.

DISTRIBUTION OF SPECIMENS FROM THE ZOOLOGICAL PARK

REPORT OF

THE DEPARTMENT OF COMPARATIVE ANATOMY

AMERICAN MUSEUM OF NATURAL HISTORY

I SUBMIT herewith my report on the specimens received from the New York Zoological Society during the year 1934. The number of specimens totalled 159.

Monthly receipts of material were as follows:

	<i>Specimens</i>		<i>Specimens</i>
January	9	July	21
February	19	August	8
March	13	September	9
April	8	October	19
May	17	November	11
June	19	December	6
Total		159	

These specimens were distributed to the following Museum departments, or otherwise disposed of, as noted:

Department of Ornithology	62
Department of Mammalogy	11
Department of Herpetology	50
Department of Comparative Anatomy	20
Department of Public Education	7
Department of Invertebrates	3
College of Physicians and Surgeons	3
Not wanted or destroyed	3
159	

WILLIAM K. GREGORY, *Curator*

REPORT OF
THE PENSION BOARD
TO THE BOARD OF TRUSTEES

UNDER the chairmanship of Dr. Lewis Rutherfurd Morris, the Pension Board met, during 1934, in the offices of Mr. Cornelius R. Agnew, at 82 Beaver Street. The personnel of the Board for the year was as follows: Dr. Lewis Rutherfurd Morris, Chairman; Mr. W. Redmond Cross, Vice-Chairman; Mr. Cornelius R. Agnew, Treasurer; Mr. H. R. Mitchell, Assistant Treasurer; Mr. Lee S. Crandall, Secretary; Dr. W. Reid Blair, Mr. George C. Clark, Dr. George Bird Grinnell and Dr. Charles H. Townsend.

The Carnegie Pension Fund of the New York Zoological Society was created by the Executive Committee on August 1, 1914, upon the establishment of an endowment fund of \$100,000 for the purpose, by the late Andrew Carnegie. The Fund has now passed its twentieth year of operation and it therefore seems appropriate to review briefly a few essential facts in connection therewith.

Starting with 169 charter members, 149 members have been added during the intervening years and 120 resignations have taken place. During this interval, 28 members have died before retirement, and 33 have been retired on pension, 19 of whom have since died. These changes leave the membership at 137, of whom 27 are Aquarium employees. Fifteen members are now exempt from further payment of dues, having passed the exemption age of 65 years.

Nineteen widows' pensions have been granted during this period, of which six are still in force. The remaining 13 were terminated as follows: three by re-marriage, four by expiration, and six by death.

During the period under consideration the fund, leaving the original endowment intact, has built up a reserve of \$173,618.24 and, in addition to refunds to resigning employees and operating expenditures, has disbursed \$166,143.17 in pension payments and death benefits.

During 1934, four new members were admitted to the fund, one member resigned and five were retired on pension, as follows: George

McCluskey, Carpenter, Zoological Park, service 35 years, pension \$100.41 per month; Valentine Hoffman, Keeper, Zoological Park, service 27 years, pension \$79.92 per month; Peter Reilly, Janitor, Zoological Park, service 23 years, pension \$47.10 per month; J. J. Keleher, Attendant, Aquarium, service 32 years, pension \$82.96 per month; Kerin Duffy, Engineer, Aquarium, service 21 years, pension \$60.77 per month.

In addition to the above, a pension for life of \$25.48 per month was granted to Minnie Brinker, widow of Adam Brinker, listed below.

Eight names were dropped from the Pension payroll during the year, as follows: Helena Fitzpatrick, pension expired February 19, 1934; Adam Brinker, former Park employee, died March 26, 1934; George Lauterback, former Park employee, died May 16, 1934; Minnie A. Allison, widow of former Park employee, died May 18, 1934; Mary McCabe, widow of former Aquarium employee, died May 26, 1934; E. H. Costain, former Park employee, died June 20, 1934; Henry Moock, former Park employee, died July 1, 1934; John A. Young, former Park employee, died November 30, 1934.

Pension disbursements for the year totaled \$18,039.95, as compared with \$18,216.56 for the previous year.

In this year of many changes, the Pension Fund was able to show a net gain in resources of \$4,208.24.

LEWIS R. MORRIS, *Chairman*

LEE S. CRANDALL, *Secretary*



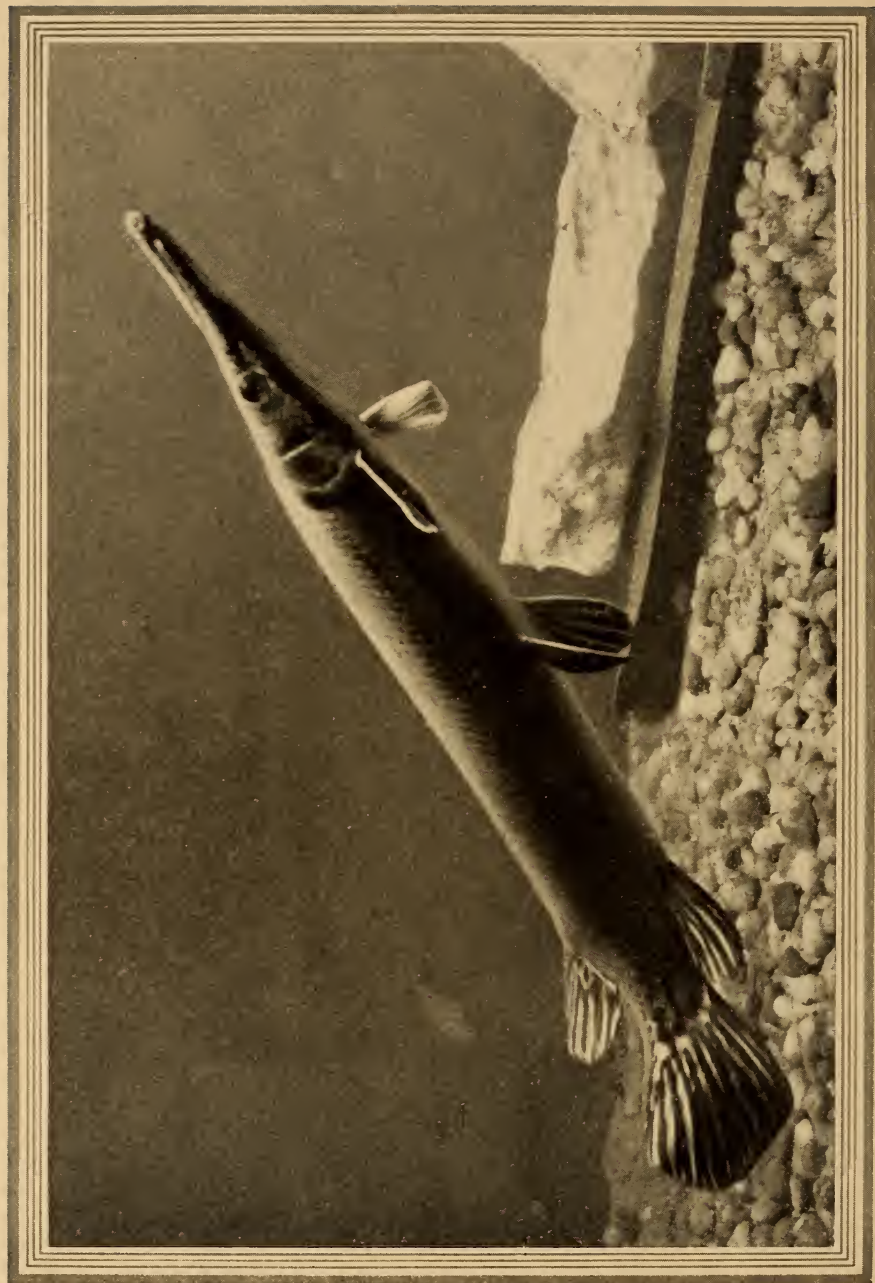
The so-called glass catfish, *Cryptopterus bicirrhus*, a highly transparent creature recently introduced to American aquaria from Singapore.



A South American catfish, *Sorubim lima*, one of the few species of this family with a spectacular pattern.



The pitarucu, *Arapaima gigas*, from the Amazon. This fish, exceedingly rare in North American aquaria, reaches nearly if not entirely the largest size of any fresh water fish.



The Cuban gar, *Atractosteus tristoechus*, a close relative of the mainland alligator gar.
Found only in the fresh waters of Cuba.

REPORT OF THE DIRECTOR OF THE AQUARIUM

CHARLES M. BREDER, JR.¹
Assistant Director

CONTINUED improvement of the physical equipment of the New York Aquarium was satisfactorily maintained during 1934. The collection of living animals was brought to a somewhat higher diversification than last year, during which a high point in species displayed was effected.

The series of lunettes that are intended to encircle the building have been continued under the competent brush of Charlotte Chase Ward. Five of these are now in place, the two added this year showing, respectively, lobsters and crabs, and octopi and squid.

A variety of projects was undertaken, chief among which was a long-needed fresh-water reservoir, almost complete for use at this writing. The other and smaller projects are discussed under a detailed consideration of the building and equipment. All of these improvements were made possible by the Civil Works Administration. Without the help of this agency most of these much-needed improvements could not have been made under present conditions.

THE LIVING EXHIBITS

	<i>Species</i>	<i>Specimens</i>
Birds	4	11
Reptiles	28	152
Amphibians	7	105
Fishes	356	7,629
Invertebrates	14	493
	<hr/>	<hr/>
	409	8,390

The increase in variety over last year is largely attributable to the extreme kindness of various ships' officers and other traveling men who have gone to great pains to gather specimens in little-visited and out-of-

¹ Prepared for the *Director*, Dr. C. H. Townsend.

the-way places. These gentlemen are mentioned individually in another place. Associated with the increase in numbers of species is a decrease in numbers of individual specimens, as compared with last year. The figure, however, is well over that of 1932.

Circulating Salt Water: A collection of Key West fishes was made jointly with the Boston Aquarium. The chief items of interest include a few choice specimens from Sweden, South Africa, St. Helena and Bermuda.

Circulating Fresh Water (temperate): A number of European fresh water fishes were added to the collection, but no extensive collecting was engaged in, pending completion of the new circulating system.

Standing Fresh Water (tropical): This exhibition still suffers from lack of quarters large enough to satisfy the requirements of many of the larger species now readily available.

Floor Pools: It is hoped that before another year has elapsed the central pool may be replaced by a series of tanks for a collection of cold water fishes.

Fish Hatchery: A new set of concrete hatching troughs for the demonstration hatchery was established. More effort than in former years was directed toward rearing fishes for Aquarium display. As a result the following species are in process of being reared:

Common catfish (spawned in exhibition tank)
 Muskallunge (eggs from Bemus Point, New York)
 Bitterling (spawned in the Aquarium)
 Fancy goldfish (spawned in the Aquarium)
 Whitefish (eggs from Saranac, New York)

The following eggs were incubated in the hatchery for exhibition purposes:

Fish eggs donated for the hatchery.

By U. S. Bureau of Fisheries

10,000 Lake Trout

10,000 Rainbow Trout

By N. Y. State Department of Conservation

32,000 Whitefish

30,000 Muskallunge

The following dispositions of material were made.

Salmon fry to Camp Fort Monmouth, N. J. 450

Also quantities of eggs, alevins and fingerlings were allotted to High Schools and Colleges for biological studies.

Work of the Collecting Boat: The well-boat *Seahorse* reports twelve sailings, all to Sandy Hook Bay. Fishes numbering 2,017 specimens, representing 54 species; invertebrates numbering 610 specimens, representing 6 species, and 7 sea turtles of one species were collected, as well as large quantities of live food of various kinds.

Collections by the Staff: One collecting trip was made to Key West in cooperation with the Boston Aquarium, which institution received one-half of the collection. Six one-day trips were made to local lakes and streams for fresh water fishes. Twelve species of fishes, represented by 1,639 specimens; one species of amphibians, represented by 300 specimens, and one species of invertebrates represented by 877 specimens, were thus collected.

PUBLIC RELATIONS

American Society of Ichthyologists and Herpetologists: The Seventeenth Annual Meeting of the American Society of Ichthyologists and Herpetologists was held in New York City in May. On the evening of May 11 the Aquarium was host to the Society, and at that time held a reception for the assembled members, 230 of whom attended.

Attendance: The Aquarium was visited by 2,178,078 persons. This figure, while large, is not as great as has been experienced in more prosperous years, but is an improvement over last year by 54,434.

Gifts: Among the more notable gifts presented to the Aquarium in 1934 are the following:

Mr. A. M. Vida, radio operator of the MV *City of New York*, American-South African Line, for a third year presented valuable African and St. Helena specimens, as well as transporting exchanges between the East London Aquarium, South Africa, and New York. The specimens consisted of penguins and marine and fresh water fishes. Details are given in the Bulletin for September-October, 1934, Vol. XXXVII, No. 5.

Mr. R. J. K. Mensing of the SS *Santa Clara*, Grace Line, brought several interesting marine fishes from the Coast of Chile.

A number of species of Illinois fishes were received from Dr. David H. Thompson of the Illinois Department of Conservation.

Six landlocked salmon and nine brook trout were donated by the Development Commission of the State of Maine.

Schools: Classes visiting the Aquarium were represented by 19,575 pupils under the charge of 1,052 teachers.

Publicity: Formal publicity consisted of the following.

Dr. C. H. Townsend addressed the Linnean Society of New York on "The Distribution and Migrations of Certain Whales."

Addresses were also given by Mr. C. W. Coates (18), Mr. S. C. Dunton (2) and Mr. R. F. Nigrelli (1). Mr. Coates gave two radio talks.

Press announcements were released from time to time.

COOPERATION WITH OTHER INSTITUTIONS

Exchanges: Exchanges were made with the following institutions.

East London Aquarium, South Africa.

Gothenberg Aquarium, Sweden.

Merseyside Aquarium, Wallasey, England.

Rotterdam Aquarium, Holland.

J. G. Shedd Aquarium, Chicago, Ill.

U. S. Bureau of Fisheries, Washington, D. C.

Mr. A. Olsen, an employee of the Aquarium, effected an exchange between New York and the Gothenberg Aquarium. Several interesting North Sea fishes and invertebrates were thus obtained. Details are given in the Bulletin for September-October, Vol. XXXVII, No. 5. An exchange in fishes with this institution was also made through Mr. A. Alghren.

Captain Hopewell of the SS. *Scythia*, Cunard Line, transported exchanges between Merseyside Aquarium, Wallasey, England, and New York. Through this kindness we were able to establish a number of European fresh water fishes in the Aquarium.

Gifts: Specimens of especial interest to the institutions named were distributed as follows.

American Museum of Natural History, New York City.

Bermuda Aquarium, Bermuda.

Edinburgh University, Edinburgh, Scotland.

Liverpool Museum and Aquarium, Liverpool, England.

Regent's Park Aquarium, London, England.



The thread-fish, *Alletia ciliaris*, taken in Sandy Hook Bay. The streamers of the dorsal fin are not broken off but were draped around the caudal fin at the moment this picture was taken.



A fresh-water garfish, *Potamorhaphis guianensis*, from South America. Most of the relatives of this fish are marine.



Muskallunge, *Esox masquinongy*, reared in the New York Aquarium. The young fry are shown in the insert, as they were on June 4, 1934. One of these as it appeared on December 27, 1934, is shown in the larger picture. Then it measured a little more than a foot in length. Both photos were reduced to the same scale.



One of the armored South American catfishes, *Xenocara hoplogenys*. These fish scrape algae from rocks for food. The highly specialized mouth is well illustrated as the fish hangs on the glass. The males grow numerous tentacles on the snout, as here shown, the function of which is unknown.

Miscellaneous: Two white pelicans were lent to the Central Park Menagerie for the summer.

Several lungfishes were housed for New York University.

Assistance was rendered the U. S. Bureau of Fisheries in shipping live fish to Venezuela and Panama for their respective governments.

Assistance was given the following institutions in importing certain European fishes for use in Medical research: New York University Bellevue Medical College, New York City; Memorial Hospital, New York City; Harvard Medical School, Boston Mass., and Yale Medical School, New Haven, Conn.

THE BUILDING AND EQUIPMENT

Mural Paintings: The most evident improvement in the appearance of the building was contributed by the added murals by Charlotte Chase Ward which are described in another place.

Fresh-water Reservoir: Work on the establishment of a closed fresh-water circulating system was started early in the year and will be ready for use in the first part of next year. (See under "Work of the Laboratory" for details.) This much needed system was made possible through the assistance of the Civil Works Administration. Mr. R. Leedom, the engineer in charge of this work, deserves much credit for his successful prosecution of the many and sometimes troublesome details involved in the direction of this matter.

Repairs and Replacements: Because of the provisions of the Civil Works Administration, it was found possible to undertake a large variety of greatly needed repairs and replacements. These, which numbered 36 separate items, ranged from such things as repairs to the stucco finish on the outside of the building, skylight rebuilding and refinishing of the roof, to smaller matters such as indoor cement patching, tile replacements, et cetera. Many of these could not have been done by the regular Aquarium force, on a basis of time alone, as well as the special trades involved in some of the repairs. Although many of these items, such as pipe replacements, are not particularly evident to the casual visitor, they are all essential to the upkeep of the institution. For the immediate supervision of this work we are grateful to Mr. H. Gotshall and Mr. S. L. Jeffry.

Tide Gage: A tide gage was installed as part of the permanent exhibition. This indicates the level of the tide in New York Harbor and

with the explanatory scale of heights indicates the extreme tides recorded, as well as the mean. It is explained in detail and illustrated in the Bulletin for September-October, 1934. This installation was also made possible by the Civil Works Administration.

FINANCIAL REMARKS

The budget as appropriated by the City of New York for 1935 is \$67,252.00. For Personal Service, \$55,852.00, and for Other Than Personal Service, \$11,400.00.

The appropriations by the Temporary Emergency Relief Administration during the year 1934 were.....\$106,034.93

This is divided as follows:

Construction of a fresh-water reservoir.....	\$71,631.38
Labor	\$54,199.45
Material and Equipment.....	17,431.93

The amount appropriated for general repairs to the building was	\$34,403.55
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Labor	\$29,450.63
Material and Equipment.....	4,952.92

The New York Zoological Society contributed out of private funds the sum of \$18,225.28 for additional salaries to the employees and \$1,088.83 for operating the collecting boat and purchasing specimens.

EXTRA-MURAL ACTIVITIES

Galápagos Tortoises: In November, Dr. Townsend visited the Galápagos tortoise colonies at San Antonio, Texas, and New Orleans, Louisiana, in order to sort out excess males not essential for propagation, so that they may be released for zoological park purposes. He also visited the Florida colony in April.

Atlantis Expedition: In February, Mr. Breder as Research Associate of the Bingham Oceanographic Laboratories sailed with the joint expedition sponsored by that institution and the Woods Hole Oceanographic Institution. A general account of this expedition and the work carried on by Mr. Breder is reported in the Bulletin for March-April, 1934, Vol. XXXVII, No. 2.

American Fisheries Society: Mr. T. H. Howley represented the Aquarium at the annual meeting of the American Fisheries Society held at Montreal, Canada.

Home Aquaria Column: Mr. C. W. Coates continued his column on tropical fish culture in the Saturday issue of the *New York Sun*.

Biological Photographic Association: Mr. S. C. Dunton was elected treasurer of this newly organized society.

Sunfish Habits: Most of the summer weekends were spent by Mr. Breder in field studies of various items in the reproductive habits of local sunfishes.

WORK OF THE LABORATORY

Water Chemistry: As a result of studies of the long continued exposure of aquarium water to metals it was decided to use all non-metal materials for the new fresh-water closed circulating system. The entire system is composed of non-metallic substances and the only materials used in contact with water, including the pumps, are concrete, hard rubber and textolite, a product of bakelite-impregnated fabric under tremendous pressures.

Fish Reproduction: The study of the details of reproductive habits in a variety of fishes was continued by Mr. Breder. These include the painted Betta, *Betta picta*; the half-beak, *Dermogynes pussilus*; the rock bass, *Ambloplites rupestris*; pumpkinseed, *Eupomotis gibbosus*; the red-breast, *Lepomis auritus*, and the black bass, *Micropterus salmoides*.

Population Studies: The studies of population density in aquaria, carried on for three years, were terminated in November and the results are being studied statistically.

Aggregation Studies: Several factors in the aggregating and schooling habits of fishes were successfully studied, the results of which are in press.

Control of Parasites: Mr. Nigrelli continued his studies of parasite control, especially considering acquired and induced immunity against external trematodes.

Bacteriophage: The investigation into the dermal effects of aquarium water has been terminated at the Aquarium, but is still under investigation by medical researchers elsewhere.

Photography: About 200 still photographs of fishes and related subjects were made during the year. Some of these appeared in the two Aquarium numbers of the Bulletin for 1934, and a few accompany this report. A second reel of motion pictures was prepared for educational purposes. All photographic work was done by Mr. S. C. Dunton.

Visiting Students: The following students made use of the Aquarium facilities at various times during the year:

1. Dr. W. Antopol, Mount Sinai Hospital. Effects of certain lead salts on fishes.
2. Mr. C. V. Berger. Colored plates of fishes.
3. Dr. E. B. Gresser, New York University Bellevue Medical College. Anatomy of the fish eye.
4. Mr. J. E. Harris, Cambridge University, England. The locomotion of fishes.
5. Mr. Robert S. Mathews, New York University Bellevue Medical College. The effect of calcium on sea fishes in fresh water.
6. Dr. G. H. Smith and Mr. H. W. Antz, Yale University. Pathological effects of certain fish parasites.
7. Mr. M. Sobel, New York University. Genetics of the fish *Platypoecilus*.

PUBLICATIONS BY THE STAFF

The Fur Seal of the Galápagos Islands. Charles Haskins Townsend. Zoologica, 18 (2): 43-56.

On the Significance of vertebral counts in Exocoetid taxonomy. C. M. Breder, Jr., and J. T. Nichols. Proc. Biol. Soc., Washington, 47; 37-44. Feb. 9. 1 fig.

*Secondary sex characters of the shark, *Ginglymostoma cirratum* (Gmelin).* C. M. Breder, Jr. Copeia (1): 27-29. April 21. 1 fig.

A new Gambusia from Andros Island, Bahamas. C. M. Breder, Jr. Amer. Mus. Novitates (719): 1-3. May 4. 2 figs.

*An experimental study of the reproductive habits and life history of the cichlid fish, *Aequidens latifrons* (Steindachner).* C. M. Breder, Jr. Zoologica, 18 (1): 1-42. June. 14 figs.

Ecology of an oceanic fresh water lake, Andros Island, Bahamas, with special reference to its fishes. C. M. Breder, Jr. Zoologica, 18 (3): 57-88. August. 10 figs.

The penetration of a grouper's digestive tract by a sharp-tailed eel. C. M. Breder, Jr., and R. F. Nigrelli. *Copeia* (4): 162-164. Dec. 31. 1 fig.

Fish notes for 1933 and 1934 from Sandy Hook Bay and other New York localities. C. M. Breder, Jr., and R. F. Nigrelli. *Copeia* (4): 193-195. Dec. 31.

Pseudo-melanosis in the tail of trout and salmon. R. F. Nigrelli. *Copeia* (2): 61-66. 1934.

The susceptibility and immunity of certain marine fishes to Epibdella melleni, a monogenetic trematode. R. F. Nigrelli and C. M. Breder, Jr. *Journ. Parasitology*, 20 (5): 259-269. September.

Observations on the genus, Sterrhurus Looss, with a description of Sterrhurus branchialis, sp. nov. (Trematode, Hemiuridae). H. W. Stunkard and R. F. Nigrelli. *Biol. Bull.*, 67 (3): 534-543. 1934. 2 figs.

ABSTRACTS

The effect of light on the orientation and stability of young plectognath fishes. Breder, C. M., Jr., and Harris, J. E., *Anat. Rec.*, 60 (4): 45.

Sex recognition in the viviparous poeciliid Lebistes reticulatus. Breder, C. M. Jr., and Coates, C. W. *Anat. Rec.*, 60 (4): 45.

The influence of temperature and other factors on the winter aggregations of the sunfish, Lepomis auritus. Breder, C. M. Jr., and Nigrelli, R. F. *Anat. Rec.*, 60 (4): 97.

PERSONNEL

Two employees were retired and pensioned: Mr. John Keleher, who had served the institution for 30 years, and Mr. Kerin Duffy, who had been with the Aquarium for 21 years.

Mr. R. F. Nigrelli, formerly employed on a part-time basis for pathological studies, was taken on as a permanent employee.

Mr. James Legg, formerly in the service of the Aquarium for 16 years, has been re-employed.

LIBRARY

The services of Miss Mary Mitchell, an experienced librarian, were secured through the Temporary Emergency Relief Administration late in the year to recatalogue and index the Aquarium library.

ATTENDANCE AT THE NEW YORK AQUARIUM BY MONTHS—1934

January	Visitors.....	102,924	Daily Average.....	3,320
February	"	80,807	"	2,886
March	"	124,272	"	4,008
April	"	238,600	"	7,953
May	"	273,431	"	8,820
June	"	292,028	"	9,734
July	"	236,401	"	7,625
August	"	272,343	"	8,785
September	"	211,823	"	7,061
October	"	141,213	"	4,555
November	"	117,115	"	3,904
December	"	87,121	"	2,810
		<hr/>	<hr/>	
		2,178,078		5,967

SALINITY

Record of monthly mean temperatures, specific gravities and alkalinity of the water of New York Harbor at the Battery during the year 1934:¹

	Temperature	Hydrogen ion Concentration (pH values)	Specific Gravity
January	44	7.4	1.013
February	40	7.4	1.015
March	40	7.5	1.014
April	45	7.5	1.010
May	53	7.5	1.011
June	62	7.4	1.014
July	68	7.2	1.015
August	70	7.4	1.016
September	70	7.5	1.015
October	65	7.2	1.016
November	55	7.2	1.015
December	50	7.2	1.014

¹ From observations at the New York Aquarium by Mr. T. H. Howley. Specific gravity readings corrected to 60°F. pH values read on a La Motte comparator, not corrected for salt error.

REPORT OF THE DIRECTOR
DEPARTMENT OF TROPICAL RESEARCH

WILLIAM BEEBE, *Director*

Regular Staff: WILLIAM BEEBE, Sc.D., Director; JOHN TEE-VAN, General Associate;
GLORIA HOLLISTER, M.A., Research Associate; JOCELYN CRANE,
Technical Associate; ELSE BOSTELMANN, Artist; GEORGE
SWANSON, Artist; PERKINS BASS and WILLIAM
RAMSEY, Field Assistants

IN early January, a brief visit was made by Dr. and Mrs. Beebe to Bermuda to settle for the charter of vessels for the season's work. On February 9 an arrangement was consummated with the National Geographic Society of Washington for the complete financing of the season's deep-sea dives in the Bathysphere. Early in March the Bathysphere was brought from Chicago to New York and completely overhauled, including the insertion of new, fused quartz windows.

The Nineteenth Expedition of the Department left New York for Bermuda on April 28 and returned to New York on November 2.

Headquarters: Board and lodging were again secured at the Bermuda Biological Station through the courtesy of the President, Dr. E. G. Conklin. Seven minutes away is New Nonsuch, the laboratory of the Zoological Society, which, as last year, answered every requirement for the season.

Transportation: The five boats of the Department were again in commission, and in addition three vessels were used in the Bathysphere dives and deep-sea trawls, the tugs *Gladisfen* and *Powerful* and the barge *Ready*.

Staff: The regular staff worked in the field during the entire time, including William Beebe, John Tee-Van, Gloria Hollister and Jocelyn Crane. Else Bostelmann and George Swanson joined the expedition as artists, and Perkins Bass and William Ramsey as field assistants.

SCIENTIFIC WORK

Shallow-water Fish: Considerable progress was made in the study of the evolution of the tails of Isospondyls by Miss Hollister, including

complete growth series. A series of blind catfish was stained and cleared for Dr. George Myers of the National Museum.

Viability experiments were continued throughout the season. Guppies were gradually adapted to full strength salt water, and several generations born in that novel medium. Representatives of 15 families of salt-water fish were brought gradually through percentages of fresh water, most of them reaching 90 per cent, while gobies, "shad" and mullets survived in fresh rainwater. To Mr. Maris we are indebted for the generous gift of air pumps and other Marco Products for aquarium use.

Deep-Sea Fish: Owing to lack of time, only a few deep-sea trawls were made during the season, but a number of rare or new forms were taken.

Continuous progress has been made in the systematic study of the life histories of deep-sea fish. In March appeared another installment of Dr. Beebe's monograph on the deep-sea fishes of Bermuda—a thorough review of the family *Idiacanthidae*. Thanks to the material obtained on the Bermuda expeditions, the amazing development of this fish was traced for the first time.

At present, another paper in the series is almost ready for the press—a survey of our large collection of Bermuda deep-sea eels. The 500 specimens represent more than 30 species and 18 families. Many hitherto unidentified leptocephalous larvae have been placed in their proper systematic positions. Careful dissection of fresh and cleared specimens is yielding many new facts. For example, the forms *brevidentatus* and *longidentatus*, which have been considered as subspecies of *Serrivomer sector*, prove to be quite distinct species, when we take into consideration deep-seated osteological characters such as those of the skull shape, the radical difference in shape of the opercular bones, etc.

In addition to other work in the study of deep-sea fish, Miss Crane has analyzed six complete net hauls, both quantitatively and qualitatively, with food and growth data.

Photography: After the Bathysphere descents, considerable attention was paid by Mr. Tee-Van to the micro-photography of pelagic fish eggs, and during the last six weeks of the Bermuda season some 2,000 feet of motion picture film were exposed, showing the capture and the complete development of an unknown oceanic eel egg. This was first shown on January 8, 1935, at the Annual Meeting of the Zoological Society. The



Creeping Glass Snail: Strange, ghostly creatures creep about the seaweed, so transparent that every organ in their bodies is visible. They are snails which have lost their shells and for safety depend upon their transparency, or else resemblance to their surroundings.
(Painting by Else Bostelmann.)



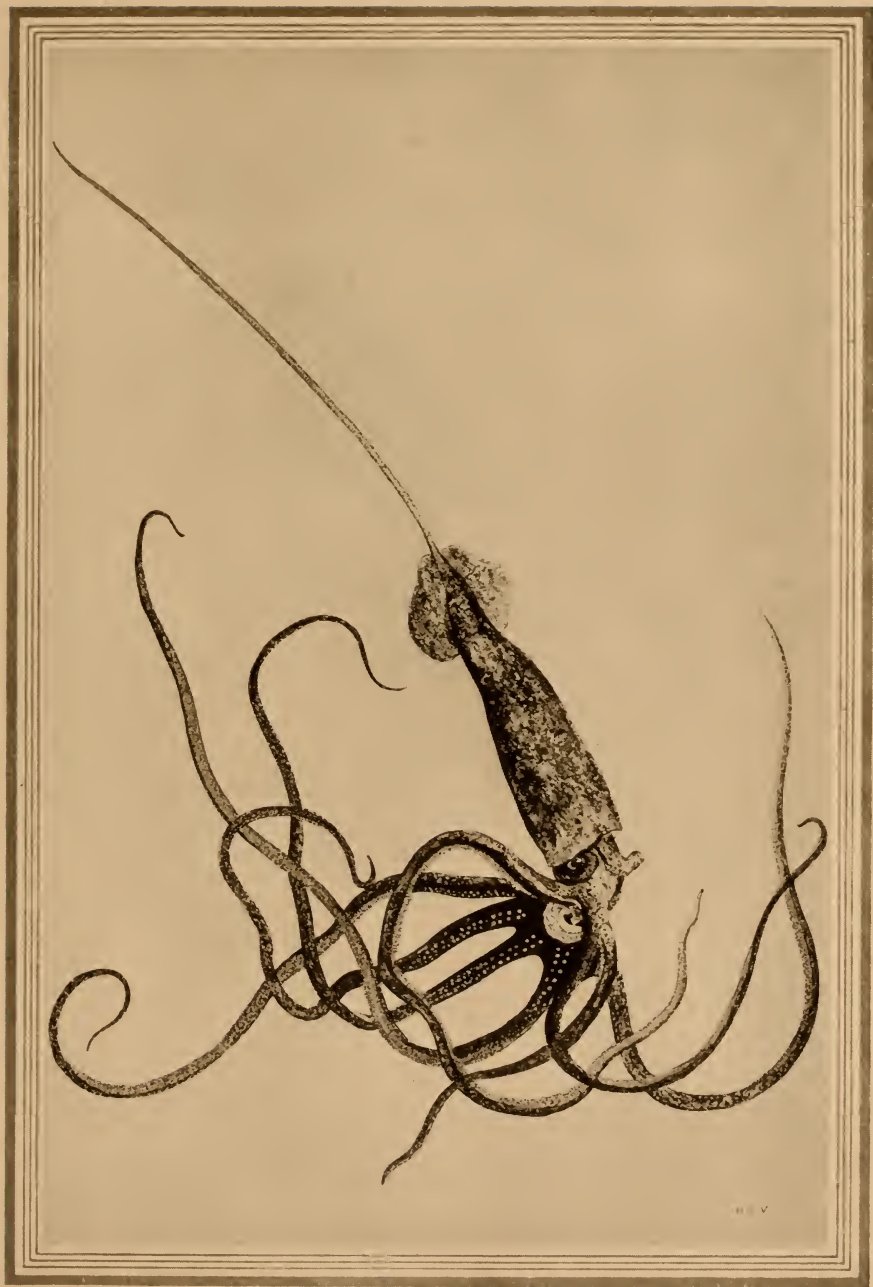
Lizard-Headed Dragonfish: This species, *Eustomias obscurus*, is typical of a large group of deepsea fish, all armed with strong teeth, and decorated with a long-stemmed barbel, which ends in a brilliant light, usually colored pink or blue. (Painting by Else Bostelmann.)



Azure Floating Snail: *Glaucus atlanticus*. These delicate snails, without shells, live at the surface of the ocean, far from land. One was found washed up on the beach at Nonsuch after a hurricane. (Painting by Else Bostelmann.)



Young Goose Barnacle: These young creatures are wholly unlike the full-grown barnacles, which attach themselves, plant-like, to floating logs. The long spines of the young act as supports in floating just as a man can float more easily with outstretched arms and legs. (Painting by Else Bostelmann.)



Long-Spined Giant Squid: This undescribed species was drawn up from a depth of a mile. Unlike many of its relatives, it shows no traces of light organs. (Painting by Helen Tee-Van.)



Telescope-Eyed Long-Fin: *Dolichopteryx binocularis* Beebe. This beautiful transparent fish came up alive in a net from the icy depths half a mile down. Its eyes are fashioned like the tubes of a pair of opera glasses, and can look only in an upward direction. (Painting by Else Bostelmann.)

mechanism for this work was designed and built by Mr. Maurice Ricker of the United Research Corporation.

Bathysphere Dives: These were successfully continued and extreme depths of 2,510 and 3,028 feet were attained. Observations were most successful, not only in direct identification of many forms, but in obtaining data for actual delineation of new and strange species of fish. Mr. Otis Barton obtained film of some of the passing lights at 3,000 feet.

Amplification of all the above activities is to be found in the November-December Bulletin of the Zoological Society, together with a list of the gifts presented during the year.

Publications: The outstanding publications of the Department for 1934 include a volume, "Half Mile Down," by the Director, published under the auspices of the Zoological Society. The November-December Bulletin was devoted to the 1934 activities, and the *Idiacanthus* number of *Zoologica* was a third worth-while contribution.

Two elaborate papers, aggregating 544 pages of text, were devoted to the Flora and the Flies of the Kartabo region of British Guiana, by Edward H. Graham and C. H. Curran, respectively. The latter paper was based wholly on the collections of the Department in past years.

CONTRIBUTIONS—1934

- 436—A Half Mile Dive in the Bathysphere. William Beebe.
Bull. N. Y. Zool. Soc. Vol. XXXV, No. 5, pp. 142-172.
- 437—The Bathysphere Broadcast. Gloria Hollister.
Bull. N. Y. Zool. Soc. Vol. XXXV, No. 5, pp. 173-174.
- 438—A New Deep-Sea Fish. William Beebe.
Bull. N. Y. Zool. Soc. Vol. XXXV, No. 5, pp. 175-177.
- 439—Contour Shore Diving. William Beebe.
Bull. N. Y. Zool. Soc. Vol. XXXV, No. 5, p. 177.
- 440—Flying Squids. William Beebe.
Bull. N. Y. Zool. Soc. Vol. XXXV, No. 5, pp. 177-178.
- 441—Oceanographical Work at Bermuda of the New York Zoological Society. William Beebe.
Science, Vol. 80, No. 2083, pp. 495-496.
- 442—Deep-Sea Fishes of the Bermuda Oceanographic Expeditions, Family Idiacanthidae. William Beebe.
Zoologica, Vol. XVI, No. 4, pp. 149-241.

- 443—Diving in the Bathysphere. Margaret Norris.
Safety Education, Vol. XIII, No. 8, pp. 175, 176, 193.
- 444—Clearing and Dyeing of Fish. Gloria Hollister.
Zoologica, Vol. XII, No. 10, pp. 89-101.
- 445—A New Genus and Species of Scaleless Blenny, *Somersia furcata*,
from Bermuda. William Beebe and John Tee-Van.
Novitates, American Museum, No. 730, June 6, 1934, pp. 1-3.
- 446—Recent Activities in the Department of Tropical Research. William
Beebe.
Bull. N. Y. Zool. Soc., Vol. XXXVII, No. 3, pp. 91-96.
- 447—New World Record Dive in Bathysphere: 2,510 Feet.
The Royal Gazette and Colonist Daily, Hamilton, Bermuda;
August 13, 1934, pp. 1 and 10.
- 448—Amazing Depth of 3,028 Feet Reached in Bathysphere.
The Royal Gazette and Colonist Daily, Hamilton, Bermuda;
August 16, 1934, p. 1.
- 449—Dr. Beebe Descends 2,510 Feet in Ocean.
New York Times, August 12, 1934, pp. 1, 3.
- 450—Beebe Descends Half Mile in Sea, Lowest Depth Man Ever Reached.
New York Herald Tribune, August 12, 1934, pp. 1, 14.
- 451—Beebe Sets Mark, Diving 3,028 Feet.
New York Times, August 16, 1934.
- 452—Flora of the Kartabo Region. Edward H. Graham.
Annals Carnegie Museum, Vol. XXII, No. 1, pp. 17-292 + xxiv.
- 453—Diptera of Kartabo, Bartica District, British Guiana. C. H. Curran.
Bull. Amer. Mus. of Nat. Hist.; Vol. LXVI, 1934, pp. 287-532.
- 454—Activities of the Department in 1934. William Beebe.
Bull. N. Y. Zool. Soc., Vol. XXXVII, No. 6, pp. 155-156.
- 455—Five Hundred Fathoms Down. William Beebe.
Bull. N. Y. Zool. Soc., Vol. XXXVII, No. 6, pp. 157-169.
- 456—The Bathysphere of 1934. John Tee-Van.
Bull. N. Y. Zool. Soc., Vol. XXXVII, No. 6, pp. 171-173.
- 457—Deep-Sea Creatures of Six Net Hauls. Jocelyn Crane.
Bull. N. Y. Zool. Soc., Vol. XXXVII, No. 6, pp. 174-181.

- 458—American Fresh-Water Eels in Bermuda. William Beebe and John Tee-Van.
Bull. N. Y. Zool. Soc., Vol. XXXVII, No. 6, pp. 181-183.
- 459—Salt and Fresh-Water Viability of Fish. Gloria Hollister.
Bull. N. Y. Zool. Soc. Vol. XXXVII, No. 6, pp. 183-187.
- 460—Sample of Unedited Telephone Notes from Dive Thirty-Two. Gloria Hollister and William Beebe.
Bull. N. Y. Zool. Soc., Vol. XXXVII, No. 6, pp. 188-189.
- 461—Three New Deep-Sea Fish Seen From the Bathysphere. William Beebe.
Bull. N. Y. Zool. Soc., Vol. XXXVII, No. 6, pp. 190-193.
- 462—Courtesies of 1934. William Beebe.
Bull. N. Y. Zool. Soc., Vol. XXXVII, No. 6, pp. 193-195.
- 463—ПРИРОДА и ЛЮДИ
Translation of "Galápagos: World's End" into Russian.
- 464—A Half Mile Down. William Beebe.
The National Geographic Magazine, Vol. LXVI, No. 6, pp. 661-703.
- 465—Flashes from Ocean Deep. Else Bostelmann.
The National Geographic Magazine, Vol. LXVI, No. 6. Colored Plates.
- 466—Half Mile Down. William Beebe.
Harcourt, Brace and Company, 1934, pp. xix, 1-344.

FINANCES

The financial administration of the Zoological Society is under the Treasurer, the Executive Committee and the Finance Committee.

The Board of Estimate and Apportionment of the City of New York appropriated for the year 1934—\$262,418.00 for Zoological Park maintenance. Early in 1934 the Board decreased the salary allowance by means of a furlough for all employees, which reduced the appropriation by \$4,540.12. Late in the year the appropriations for food for animals and for fuel were found to be inadequate to carry us through the year, and the additional sum of \$2,500.00 was granted, making the total appropriation, less the furlough deduction, \$260,377.88.

For the Aquarium the Board of Estimate granted \$68,903.00 for maintenance for 1934, which was later reduced by the furlough deduction, to \$67,459.81.

The final appropriations by the City for both the Park and Aquarium for the year, amounted to \$327,837.69.

During the year the Society expended a grand total of \$199,240.58 from income, contributions and publication funds, of which expenditures in the Improvement and Repair Account, derived from gate receipts, were \$11,025.88.

The balance in Endowment and other Funds of the Society on December 31, 1934, aggregated \$3,901,559.34, of which \$3,813,263.96 was represented by securities carried at cost or gift value. The market value of these securities on December 31, 1934, was \$3,518,651.53.

For the continuation of its work, of great public benefit in the Park and Aquarium, the Society requires the immediate addition of \$2,000,000 to its general endowment, and desires the constant attention of its members and friends to the needs of its Library, extension of its scientific and research work, Heads and Horns Collection, Publications and Gallery of Animal Paintings.

Communications or contributions to the Endowment Fund should be addressed either to the

Secretary of the New York Zoological Society, 101 Park Avenue, New York, N. Y., or to the

Treasurer of the New York Zoological Society, 82 Beaver Street, New York, N. Y.

The form of gift or bequest is printed on page ix of this report.

STATEMENT OF FUNDS PROVIDED BY THE VARIOUS CITY ADMINISTRATIONS FOR THE DEVELOPMENT
AND MAINTENANCE OF THE ZOOLOGICAL PARK AND AQUARIUM
FROM THE ORGANIZATION OF THE SOCIETY TO THE PRESENT
1896 to 1935

MAYOR	COMPTROLLER	Year	MAINTENANCE		CORPORATE STOCK ISSUES	
			Park	Aquarium	Park	Aquarium
Robert A. Van Wyck 1898-1901	Bird S. Coler 1898-1901	1899	\$30,000.00	.....	.....	.....
		1900	40,000.00	.....	\$125,000.00	.....
		1901	65,000.00	.....	300,000.00	.....
		1902	85,000.00	\$ 5,959.97	250,000.00	.....
Seth Low 1902-1903	E. M. Grout 1902-1903	1903	104,965.00	46,453.68	250,000.00	\$30,000.00
		1904	104,965.00	46,439.72	275,000.00	40,000.00
G. B. McClellan 1904-1909	E. M. Grout 1904-1906 Herman A. Metz 1907-1909	1905	134,965.00	44,968.50	275,000.00	.....
		1906	144,965.00	44,987.71	250,000.00	.....
		1907	141,558.75	44,183.87	100,000.00	.....
		1908	154,627.00	44,157.27	65,000.00	.....
		1909	162,325.00	45,971.44	10,000.00	.....
		1910	167,632.00	45,974.86	89,500.00	.....
W. J. Gaynor 1910-1913 Ardolph L. Kline 1913	W. A. Prendergast 1910-1913	1911	174,632.00	47,560.21	155,000.00	.....
		1912	182,365.00	46,597.08	.....	.....
		1913	191,925.00	47,335.62	.....	29,100.00
		1914	200,000.00	46,995.53	.....	.....
J. P. Mitchel 1914-1917	W. A. Prendergast 1914-1917	1915	200,000.00	46,991.66	21,425.00	.....
		1916	197,074.35	46,996.43	.....	.....
		1917	199,560.00	46,903.61	.....	.....
		1918	207,586.00	48,630.71	.....	.....
J. F. Hylan 1918 to 1925	C. L. Craig 1918 to 1925	1919	190,000.00	45,000.00	5,000.00	.....
		1920	250,098.27	53,971.48	15,000.00	.....
		1921	276,951.01	65,203.12	.....	86,000.00
		1922	264,618.05	63,341.26	.....	25,000.00
		1923	264,515.00	59,226.00	.....	.....
		1924	264,514.49	58,309.00	.....	7,970.00
		1925	264,514.49	58,334.00	52,000.00	33,000.00
		1926	274,280.00	62,348.00	.....	1,500.00
James J. Walker 1926 to 1932 John P. O'Brien 1933	Charles W. Berry 1926 to 1933	1927	277,280.00	65,228.00	.....	.....
		1928	319,380.50	88,111.00	.....	.....
		1929	338,359.00	71,232.00	†35,000.00	65,000.00
		1930	350,170.92	81,354.79	50,000.00	.....
		1931	349,459.00	76,167.00	.....	.....
		1932	342,759.00	76,132.00	.....	.....
		1933	271,213.00	69,528.00	.....	.....
		1934	*260,377.88	*\$67,459.81	.....	.....
Fiorello H. LaGuardia 1934	W. Arthur Cunningham Joseph D. McGoldrick 1934	1935	261,483.92	67,252.00	.....	.....
		Totals	\$7,709,119.63	\$1,875,305.33	\$2,322,925.00	\$317,570.00

Note: The appropriations for each year are granted by the Board of Estimate the previous year.

* As modified. † Appropriated for New Public Comfort Station but later rescinded.

ON ACCOUNT OF THE DEVELOPMENT AND MAINTENANCE OF THE ZOOLOGICAL PARK AND THE AQUARIUM, INCLUDING THE PURCHASE OF COLLECTIONS AND ALSO FOR THE SCIENTIFIC AND GENERAL PURPOSES OF THE SOCIETY.

[illegible]

CLASSIFIED SUMMARY OF EXPENDITURES FOR THE YEAR 1934, NEW YORK ZOOLOGICAL SOCIETY

	PARK MAINTENANCE		AQUARIUM MAINTENANCE		NEW YORK ZOOLOGICAL SOCIETY FUNDS						GRAND TOTAL	
	From City Funds		From City Funds		Special Funds		General Income Fund		Scientific & Research			
	Salaries	Other Items	Salaries	Other Items	Salaries	Other Items	Salaries	Other Items	Salaries	Other Items	Salaries	Other Items
Zoological Park : Maintenance by City												
Administration	\$28,570.12										\$28,570.12	
Care of Buildings and Collections	91,632.85										91,632.85	
Care of Grounds	78,142.59										78,142.59	
Supplies		\$39,798.58										\$39,798.58
Equipment		2,047.73										2,047.73
Materials		10,629.86										10,629.86
Miscellaneous		6,601.35										6,601.35
Gate Receipts												
Improvements and Repairs					\$11,025.88						11,025.88	
Contributions by Society												
Maintenance							\$61,504.20	\$4,998.39			61,504.20	4,998.39
Administration							17,700.00	6,212.32			17,700.00	6,212.32
Purchase of Animals						\$9,267.86						9,267.86
Oil Paintings						300.00						300.00
Insurance								2,343.70				2,343.70
Membership Expenses							3,860.33	5,257.39			3,860.33	5,257.39
Pension Contributions					9,143.95		5,665.00				14,808.95	
Educational Activities							3,999.84	240.56			3,999.84	240.56
Conservation Activities						150.00		649.99				799.99
Miscellaneous Expenditures							759.96	3,415.14			759.96	3,415.14
Scientific Purposes								500.00	\$17,771.37	\$13,921.25	17,771.37	14,421.25
Heads and Horns Collection										162.86		162.86
Aquarium : Maintenance by City			\$54,377.65	\$11,428.96							54,377.65	11,428.96
Contributions by Society												
Maintenance							18,225.28	3.95			18,225.28	3.95
Insurance								1,148.68				1,148.68
Aquarium Specimens						552.23		1,088.83				1,641.06
Miscellaneous Expenditures							120.00	195.50			120.00	195.50
Totals	\$198,345.56	\$59,077.52	\$54,377.65	\$11,428.96	\$20,169.83	\$10,270.09	\$111,834.61	\$26,054.45	\$17,771.37	\$14,084.11	\$402,499.02	\$120,915.13
Totals by Funds	\$257,423.08		\$65,806.61		\$30,439.92		\$137,889.06		\$31,855.48		\$523,414.15	

Treasurer's Reports

FOR THE YEAR ENDING DECEMBER 31, 1934

CORNELIUS R. AGNEW, *Treasurer*
82 Beaver Street, New York City

BALANCE SHEET

As at December 31, 1934

(Prepared on a cash basis except as to items affecting appropriations made by the City of New York)

ASSETS

Cash: At The National City Bank, City Bank Farmers Branch.....	\$	63,664.83	
On Hand		100.00	
			<hr/>
Accounts Receivable:		63,764.83	
Due from the City of New York on Account of:			
1934 Park Maintenance Appropriation.....	\$24,367.63		
1934 Aquarium Maintenance Appropriation	7,519.77	31,887.40	
			<hr/>
Investments—Stocks and Bonds (at Cost or Bequest Value)		3,813,263.96	
			<hr/>
		\$3,908,916.19	<hr/>

LIABILITIES AND FUNDS

Accounts Payable:			
For Park Maintenance	\$	6,352.84	
For Aquarium Maintenance		1,004.01	
			<hr/>
Funds as at December 31, 1934:		7,356.85	

Endowment Funds:

General Endowment	\$	673,615.93	
Anna M. Harkness Endowment	1,045,109.95		
Rockefeller Endowment	932,004.75		
Sage Endowment	710,881.29		
George F. Baker Endowment	102,600.25		
Jacob H. Schiff Endowment	100,000.00		
Ladies' Auxiliary Endowment	5,680.00		
			<hr/>
		3,569,892.17	

Special Endowment Funds:

Cadwalader Animal Endowment	\$	22,033.79	
William E. Damon Endowment	10,001.00		
Florence Lydig Sturgis Endowment	15,627.43		
Stokes Bird Endowment	5,915.00		
Carnegie Pension Fund Endowment	100,066.25	153,643.47	
			<hr/>

Special Funds:

Animal Account	46,682.38		
Art Gallery Account	4,998.94		
Improvement and Repair Account	5,874.12		
Biological Laboratory Construction			
Account	21,745.06		
Auxiliary Pension Account	60,379.62		
Revolving Publication Account	3,592.02	143,272.14	
			<hr/>

<i>General Income Fund</i>	22,914.41		
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Scientific and Research Funds:

Publication Account	7,976.64		
Library Account	1,621.60		
Heads and Horns Collection Account	2,238.91	11,837.15	3,901,559.34
			<hr/>

NOTE: Animals and other living specimens, heads, horns and other property which have not been valued are not included in the above Balance Sheet.

\$3,908,916.19

GROUP I

Maintenance Fund

ZOOLOGICAL PARK ACCOUNT

INCOME

Received from the City of New York on account of Park Maintenance for the Year 1934.....			\$233,055.45
Budget Appropriation	\$262,418.00		
Supplemental Appropriation			
For Forage & Veterinary Supplies	\$1,000.00		
For Fuel Supplies.....	1,500.00	2,500.00	
		<u>\$264,918.00</u>	
Due from the City of New York on account of Park Maintenance.....			24,367.63
Balances reverting to the City of New York:			
Furlough Deduction	\$ 4,540.12		
(Resolution of Board of Estimate, April 10, 1934)			
Unexpended:			
Personal Service	\$2,951.32		
Other Than Personal Service.....	3.48	2,954.80	7,494.92
			<u>\$264,918.00</u>
Deficit in City Maintenance Appropriation for 1934 (Paid by the New York Zoological Society).....			66,502.59
			<u>\$331,420.59</u>

EXPENDITURES

Personal Service:

General Administration	\$ 28,570.12		
Maintenance and Care of Buildings and Collections	91,632.85		
Maintenance and Care of Grounds	78,142.59		
Salaries in Excess of City Appropriation	61,504.20	\$259,849.76	

Supplies:

Food for Animals	\$ 24,675.34		
Fuel	6,462.74		
Fuel Oil	6,991.36		
Office Supplies	608.69		
Stationery and Printing	661.47		
Drugs and Medicines	160.48		
Medical and Surgical Supplies	39.50		
Motor Vehicle Supplies	556.19		
Disinfectants	121.20		
Janitors Supplies	132.56		
Nursery Stock and Seeds	76.74		
Nursery Supplies	55.18		
Miscellaneous Supplies	1,318.27	41,859.72	

Equipment:

Office Equipment	\$	101.00	
Motor Vehicles and Equipment		150.00	
Uniforms and Wearing Apparel		162.84	
Janitors' Equipment		206.97	
Painters' Equipment		182.51	
Rubber Hose		162.22	
Tools and Machinery		363.91	
Miscellaneous Equipment		1,072.12	2,401.57
			<hr/>

Materials:

Motor Vehicle Materials	\$	142.68	
Bolts, Nails and Hardware		164.24	
Electrical Materials		263.10	
Fencing and Netting		648.88	
Furnace Materials		53.37	
Glaziers' Materials		105.55	
Lumber		1,217.41	
Paints and Oils		2,011.23	
Plumbing Materials		2,253.26	
Sand, Cement and Brick		908.92	
Steel and Iron		1,524.98	
Miscellaneous Materials		1,349.89	\$ 10,643.51
			<hr/>

Contract or Open Order Service:

Apparatus and Machinery Repairs	\$	346.57	
Plumbing Repairs		2,209.20	
Sanitary Service		138.60	
Miscellaneous Repairs		470.14	
Motor Vehicle Repairs		60.40	
Electric Service		3,687.48	
Gas		92.85	
Expressage and Deliveries		49.36	
Telephone Service		1,818.88	8,873.48
			<hr/>

Contingencies:

Medical Attendance, Animals	\$	10.00	
Miscellaneous Expenses		287.63	297.63
			<hr/>

Total		\$323,925.67	
Unexpended balance reverting to the City of New York		7,494.92	
		<hr/>	
		\$331,420.59	
		<hr/>	

GROUP I

Maintenance Fund

AQUARIUM ACCOUNT

INCOME

Received from the City of New York on account of Aquarium Maintenance Appropriation of \$68,903.00 for the year 1934.....	\$ 58,286.84
Due from the City on account of Aquarium Maintenance Appropriation	6,919.77
Due from the City pending transfer between codes	600.00

Balances reverting to the City of New York:

Furlough Deduction	\$ 1,443.19
(Resolution of Board of Estimate, April 10, 1934)	

Unexpended:

Personal Service	\$1,631.16		
Other Than Personal Service.....	22.04	1,653.20	3,096.39

	\$ 68,903.00
Deficit in City Maintenance Appropriation for 1934 (Paid by the New York Zoological Society).....	18,229.23
	<u>\$ 87,132.23</u>

EXPENDITURES

Salaries and Wages.....	\$ 54,377.65
Salaries in excess of City Appropriation	18,225.28
Forage and Veterinary Supplies.....	2,493.56
Fuel Supplies	3,999.26
Office Supplies	225.00
Laundry, Cleaning and Disinfecting Supplies.....	200.00
Refrigerating Supplies	150.00
General Plant Supplies.....	595.77
Wearing Apparel	4.95
Office Equipment	100.00
General Plant Equipment.....	750.00
General Plant Materials.....	898.27
Repairs and Replacements.....	1,399.57
Telephone Service	325.00
Expressage and Cartage.....	142.22
Contingencies	149.31

Total	\$ 84,035.84
Unexpended balance reverting to the City of New York.....	3,096.39
	<u>\$ 87,132.23</u>

M. C. FENSTEMAKER, *Secretary*

GROUP II

Endowment Fund

GENERAL ENDOWMENT ACCOUNT

Funds as of December 31, 1933:

Investments at cost	\$ 668,689.45	
Balance	1,726.33	\$ 670,415.78

RECEIPTS

Estate of Caroline F. Butterfield	\$ 1,589.88	
Life Memberships	400.00	
Profit on Sale of Bonds	1,210.27	3,200.15
		<u>\$ 673,615.93</u>

Funds as of December 31, 1934:

Investments at cost (see list of securities)	\$ 672,610.50	
Balance	1,005.43	\$ 673,615.93
		<u>\$ 673,615.93</u>

ANNA M. HARKNESS ENDOWMENT ACCOUNT

Funds as of December 31, 1933:

Investments at cost	\$1,042,654.83	
Balance	227.67	\$1,042,882.50

RECEIPTS

Profit on Sale of Bonds	2,227.45	
		<u>\$1,045,109.95</u>

Funds as of December 31, 1934:

Investments at cost (see list of securities)	\$1,045,103.83	
Balance	6.12	\$1,045,109.95
		<u>\$1,045,109.95</u>

ROCKEFELLER ENDOWMENT ACCOUNT

Funds as of December 31, 1933:

Investments at cost	\$ 897,181.38	
Balance	34,823.37	\$ 932,004.75

Funds as of December 31, 1934:

Investments at cost (see list of securities)	\$ 930,081.38	
Balance	1,923.37	\$ 932,004.75

GROUP II

Endowment Fund

SAGE ENDOWMENT ACCOUNT

Funds as of December 31, 1933:

Investments at cost.....	\$613,725.54	
Balance	97,151.71	\$710,877.25

RECEIPTS

Profit on Sale of Stock.....	4.04	
		<u>\$710,881.29</u>

Funds as of December 31, 1934:

Investments at cost (see list of securities).....	\$708,585.54	
Balance	2,295.75	\$710,881.29
		<u>\$710,881.29</u>

GEORGE F. BAKER ENDOWMENT ACCOUNT

Funds as of December 31, 1933:

Investments at cost.....	\$101,997.50	
Balance	602.75	\$102,600.25

Funds as of December 31, 1934:

Investments at cost (see list of securities).....	\$101,997.50	
Balance	602.75	\$102,600.25

JACOB H. SCHIFF ENDOWMENT ACCOUNT

Funds as of December 31, 1933:

Investments at cost.....	\$ 99,085.00	
Balance	915.00	\$100,000.00

Funds as of December 31, 1934:

Investments at cost (see list of securities).....	\$ 99,085.00	
Balance	915.00	\$100,000.00

LADIES AUXILIARY ENDOWMENT ACCOUNT

Funds as of December 31, 1933:

Investments at cost.....	\$ 5,000.00	
Balance	680.00	\$ 5,680.00

Funds as of December 31, 1934:

Investments at cost (see list of securities).....	\$ 5,000.00	
Balance	680.00	\$ 5,680.00

GROUP III

Special Endowment Fund**CADWALADER ANIMAL ENDOWMENT ACCOUNT**

Funds as of December 31, 1933:

Investments at cost.....	\$ 20,000.00	
Balance	<u>1,033.79</u>	\$ 21,033.79

RECEIPTS

Interest on Investments		1,000.00
		<u>\$ 22,033.79</u>

Funds as of December 31, 1934:

Investments at cost (see list of securities).....	\$ 20,000.00	
Balance	<u>2,033.79</u>	\$ 22,033.79
		<u>\$ 22,033.79</u>

WILLIAM E. DAMON ENDOWMENT ACCOUNT

Funds as of December 31, 1933:

Investments at cost.....	\$ 9,705.00	
Balance (Principal \$295.00—Income \$53.23)	<u>348.23</u>	\$ 10,053.23

RECEIPTS

Interest on Investments		500.00
		<u>\$ 10,553.23</u>

EXPENDITURES

Aquarium Specimens	\$	552.23
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Funds as of December 31, 1934:

Investments at cost (see list of securities).....	\$ 9,705.00	
Balance (Principal \$295.00—Income \$1.00)	<u>296.00</u>	10,001.00
		<u>\$ 10,553.23</u>

FLORENCE LYDIG STURGIS ENDOWMENT ACCOUNT

Funds as of December 31, 1933:

Investments at cost.....	\$ 9,987.50	
Balance (Principal \$12.50—Income \$5,066.81)	<u>5,079.31</u>	\$ 15,066.81

RECEIPTS

Interest on Investments (net)		560.62
		<u>\$ 15,627.43</u>

Funds as of December 31, 1934:

Investments at cost (see list of securities).....	\$ 15,068.75	
Balance	<u>558.68</u>	\$ 15,627.43
		<u>\$ 15,627.43</u>

GROUP III

Special Endowment Fund

STOKES BIRD ENDOWMENT ACCOUNT

Funds as of December 31, 1933:

Investments at cost.....	\$ 5,056.46	
Balance	808.54	\$ 5,865.00

RECEIPTS

Interest on Investments.....	200.00
	<u>\$ 6,065.00</u>

EXPENDITURES

Preservation of Bird Life.....	\$ 150.00
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Funds as of December 31, 1934:

Investments at cost (see list of securities).....	\$ 5,056.46	
Balance	858.54	5,915.00
	<u> </u>	<u>\$ 6,065.00</u>

CARNEGIE PENSION ENDOWMENT ACCOUNT

Funds as of December 31, 1933:

Investments at cost.....	<u>\$100,066.25</u>
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Funds as of December 31, 1934:

Investments at cost (see list of securities).....	<u>\$100,066.25</u>
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GROUP IV

Special Fund

ANIMAL ACCOUNT

Balance as of December 31, 1933..... \$ 41,043.29

RECEIPTS

Privilege Department (1934 Receipts).....	\$ 14,000.00	
Childs Frick	100.00	
Sale of Animals.....	667.50	
Checking	10.65	
Miscellaneous Receipts	233.84	
		15,011.99
		\$ 56,055.28

EXPENDITURES

Purchase of Animals:		
Mammals	\$ 3,338.35	
Birds	3,149.55	
Reptiles	2,021.15	\$ 8,509.05
Express and Other Charges.....	\$ 623.16	
Traveling and Other Expenses.....	135.65	758.81
Accrued Interest on Bonds Purchased.....		105.04
		9,372.90

Funds as of December 31, 1934:

Investments at cost (see list of securities)	\$ 23,338.75	
Balance	23,343.63	46,682.38
		\$ 56,055.28

ART GALLERY ACCOUNT

Balance as of December 31, 1933..... \$ 298.94

RECEIPTS

General Income Fund (transfer).....		5,000.00
		\$ 5,298.94

EXPENDITURES

Oil Paintings	\$ 300.00	
Balance as of December 31, 1934.....		4,998.94
		\$ 5,298.94

REVOLVING PUBLICATION ACCOUNT

Balance as of December 31, 1933..... \$ 3,544.77

RECEIPTS

Sale of "Present Day Mammals".....		47.25
		\$ 3,592.02

Balance as of December 31, 1934	\$ 3,592.02	
		\$ 3,592.02

GROUP IV

Special Fund

IMPROVEMENT AND REPAIR ACCOUNT

Balance as of December 31, 1933.....	\$	801.90
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RECEIPTS

Gate Receipts		16,098.10
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	\$	<u>16,900.00</u>
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EXPENDITURES

Boilers	\$	226.08	
Cage Repairs		1,160.85	
Concrete Work		2,629.25	
Fence Repairs		2,912.95	
Gardening		928.00	
Guard Wires		250.20	
Painting		163.80	
Walk Repairs		1,004.15	
Miscellaneous Repairs		1,750.60	\$ 11,025.88

Balance as of December 31, 1934		5,874.12
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	\$	<u>16,900.00</u>
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BIOLOGICAL LABORATORY CONSTRUCTION ACCOUNT

Funds as of December 31, 1933:

Investments at cost	\$	19,925.00	
Balance		1,170.06	\$ 21,095.06

RECEIPTS

Interest on Investments		650.00
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	\$	<u>21,745.06</u>
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Funds as of December 31, 1934:

Investments at cost (see list of securities)	\$	19,925.00	
Balance		1,820.06	\$ 21,745.06

	\$	<u>21,745.06</u>
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AUXILIARY PENSION ACCOUNT

Funds as of December 31, 1933:

Investments at cost	\$	46,000.00	
Balance		13,898.19	\$ 59,898.19

RECEIPTS

General Income Account (transfer)	\$	3,000.00	
Interest on Investments (net)		2,290.38	5,290.38

	\$	<u>65,188.57</u>
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EXPENDITURES

Auxiliary Pensions		4,808.95
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Funds as of December 31, 1934:

Investments at cost (see list of securities)	\$	57,640.00	
Balance		2,739.62	60,379.62

	\$	<u>65,188.57</u>
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GROUP V

General Income Fund

Balance as of December 31, 1933..... \$ 15,683.31

RECEIPTS

Income from General Endowment (net).....	\$ 34,695.32	
Income from Harkness Endowment (net).....	45,407.22	
Income from Rockefeller Endowment.....	43,346.42	
Income from Sage Endowment.....	34,060.00	
Income from Baker Endowment.....	2,590.00	
Income from Schiff Endowment.....	5,002.50	
Income from Ladies' Auxiliary Endowment.....	200.00	165,301.46
Annual Dues.....	\$ 11,220.00	
Sustaining Membership Dues.....	80.00	11,300.00
American Museum of Natural History.....	\$ 400.00	
Miss Laura B. Garrett.....	5.00	
Annual Report (Sales).....	13.70	418.70
		<u>\$192,703.47</u>

EXPENDITURES

General Office Expenses.....	\$ 4,207.54	
Stationery, Printing and Office Supplies.....	2,004.78	
Salary of Chairman.....	7,000.00	
Salary of Secretary.....	5,000.00	
Treasurer's Office Expenses.....	3,700.00	
Audit of Accounts.....	2,000.00	
Annual Report.....	6,568.23	
Annual Meeting Expenses.....	1,417.69	
Reception Expenses.....	1,131.80	\$ 33,030.04
Educational Activities.....	4,240.40	
Conservation Activities.....	649.99	
Research Scholarships.....	500.00	5,390.39
Insurance, Zoological Park.....	2,343.70	
Insurance, Aquarium.....	1,148.68	3,492.38
Aquarium Specimens.....	1,088.83	
Aquarium Expenses.....	315.50	1,404.33
Pension Fund Income Account.....	5,665.00	
Aid to Employees.....	450.00	6,115.00
Concourse Grading and Planting.....	1,037.19	
Miscellaneous Expenses.....	2,687.91	3,725.10
		<u>\$ 53,157.24</u>

GROUP V

General Income Fund

TRANSFERS

Zoological Park Maintenance Salaries in Excess of City		
Appropriation	\$ 61,504.20	
Zoological Park Maintenance Supply Deficit	4,998.39	
Aquarium Maintenance Salaries in Excess of City		
Appropriation	18,225.28	
Aquarium Maintenance Supply Deficit	3.95	
Art Gallery Account	5,000.00	
Auxiliary Pension Account	3,000.00	
Publication Account	16,000.00	
Tropical Research Account	6,900.00	
Heads and Horns Account	1,000.00	116,631.82
		<hr/>
Balance as of December 31, 1934		22,914.41
		<hr/>
		\$192,703.47
		<hr/>

GROUP VI

Scientific and Research Fund**PUBLICATION ACCOUNT**

Balance as of December 31, 1933 \$ 9,226.98

RECEIPTS

General Income Fund (transfer)	\$ 16,000.00	
Sale of "Tropical Wild Life in British Guiana"	18.75	
Sale of Bulletin	544.63	
Sale of Zoologica	80.10	
Sale of Zoopathologica	1.15	
Sale of Photographs and Slides	257.17	16,901.80
		<u>\$ 26,128.78</u>

EXPENDITURES

Bulletin	\$ 11,740.97	
Zoologica	2,218.08	
Photographs and Slides	4,193.09	\$ 18,152.14
		<u>7,976.64</u>
Balance as of December 31, 1934		<u>\$ 26,128.78</u>

TROPICAL RESEARCH ACCOUNT**RECEIPTS**

Childs Frick	\$ 500.00	
Herbert L. Satterlee	500.00	
Irving K. Taylor	250.00	
Ogden L. Mills	100.00	
General Income Fund (transfer)	6,900.00	\$ 8,250.00

EXPENDITURES

Salaries		<u>\$ 8,250.00</u>
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HEADS AND HORNS COLLECTION ACCOUNT

Balance as of December 31, 1933 \$ 1,401.77

RECEIPTS

General Income Fund (transfer)	1,000.00	
		<u>\$ 2,401.77</u>

EXPENDITURES

Heads and Horns	\$ 121.66	
Miscellaneous Expenses	41.20	\$ 162.86
		<u>2,238.91</u>
Balance as of December 31, 1934		<u>\$ 2,401.77</u>

GROUP VI

Scientific and Research Fund

1934 BERMUDA EXPEDITION ACCOUNT

Balance as of December 31, 1933..... \$ 5.57

RECEIPTS

William Beebe	\$ 2,112.66	
Childs Frick	1,000.00	
Herbert L. Satterlee	250.00	
Cornelius W. Wickersham	235.00	
Air Reduction Sales Co.	150.00	
John Balfour Clark	135.00	
Auguste Richard	130.00	
Robert P. Bass	100.00	
Silas W. Howland	100.00	
Edward Mallinckrodt, Jr.	100.00	
Sidney A. Mitchell	100.00	
William A. Read	100.00	
Newbold L. Herrick	50.00	
Charles A. Marshall	50.00	
Edwin S. S. Sunderland	50.00	
Danforth Miller	25.00	
		4,687.66
		<u>\$ 4,693.23</u>

EXPENDITURES

Salaries	\$ 1,800.00	
Laboratory Expenses	240.00	
Traveling and Other Expenses	72.08	
Miscellaneous Expenses	2,581.15	
		\$ 4,693.23
		<u>\$ 4,693.23</u>

LIBRARY ACCOUNT

Balance as of December 31, 1933..... \$ 1,928.13

\$ 1,928.13

EXPENDITURES

Books, Pamphlets, etc.	\$ 54.37	
Subscription to Periodicals	173.95	
Miscellaneous Supplies	22.06	
Miscellaneous Expenses	56.15	
		\$ 306.53
Balance as of December 31, 1934		1,621.60
		<u>\$ 1,928.13</u>

SPECIAL PUBLICATION ACCOUNT

Balance as of December 31, 1933..... \$ 290.72

\$ 290.72

EXPENDITURES

Zoologica (Tropical Research) \$ 290.72

\$ 290.72

H. R. MITCHELL, *Manager*.
January 1, 1935

CORNELIUS R. AGNEW, *Treasurer*.

Securities

Securities Owned by the New York Zoological Society

December 31, 1934

Listed at cost or gift value

Endowment Fund

GENERAL ENDOWMENT ACCOUNT

Bonds:

\$19,000	Am. Tel. & Tel. Co., 35-yr. S/F Deb. 5% 1960.....	\$ 18,287.50
30,000	Am. Tel. & Tel. Co., 20-yr. S/F Deb. 5½%, 1943.....	29,475.00
20,000	Armour & Co. Ill. Real Estate 1st Mtge. 4½%, 1939.....	20,547.50
4,000	Baltimore & Ohio RR. Co., 1st Mtge. 4%, 1948.....	3,120.00
85,000	Canadian Pacific Rwy. Co. Col. Trust Gold Bond, 5%, 1954.....	84,975.00
3,000	Central RR. of New Jersey Gen. Mtge., 5%, 1987.....	3,031.25
17,600	C., M., S. P. & P. RR. Conv. Adj. Series A, 5%, 2000.....	16,620.00
4,400	C., M., S. P. & P. RR. 50-yr. Mtge. Series A, 5%, 1975.....	4,155.00
20,000	Chicago & Northwestern Ry. Co. Gen. Mtge., 4%, 1987.....	19,750.00
12,000	Cincinnati Union Terminal Co., 1st Mtge., Series "B" 5%, 2020	11,670.00
15,000	Detroit Edison Co. Gen. & Rfg. Series A, 5%, 1949.....	14,625.00
25,000	Glen Alden Coal Co., 1st 4%, 1965.....	21,343.75
20,000	Illinois Central RR., & Chic., St. L. & N. O. RR. Co., Jt. 1st Ref. Series A, 5%, 1963.....	20,083.75
5,000	Lackawanna Steel Co., 1st Cons. Conv. Series A, 5%, 1950.....	4,891.25
9,000	Lehigh Valley Ry. Terminal 1st Mtge., 5%, 1941.....	9,090.00
75,000	P. Lorillard Co., 5%, 1951.....	72,775.00
5,000	Mich. Central RR. Co., Air Line RR., 1st Mtge., 4%, 1940.....	4,950.00
1,000	Morris & Essex RR. Co., 1st Rfdg. Mtge., 3½%, 2000.....	876.25
25,000	New England Tel. & Tel. Co., 1st Series A, 5%, 1952.....	24,843.75
15,000	N. Y. C. R. R. Co., Conv. Col. Tr. Sec'd, 6%, 1944.....	16,762.50
9,000	New York Steam Corp., 1st 5%, 1951.....	8,482.50
25,000	N. Y. & West. Ltg. Co., Gen. Mtge., 100-yr., 4%, 2004.....	19,750.00
25,000	Oregon Short Line RR. Co., 1st Cons. Mtge. Guaranteed by Union Pacific RR., 5%, 1946.....	25,990.00
16,000	Pennsylvania RR. Co., Secured 40-yr., 5%, 1964.....	16,120.00
13,000	St. Joseph Lead Co., Conv. Deb. 5½%, 1941.....	14,787.50
10,000	St. Paul, Minn. & Man. RR. Co., Cons. 5%, 1943.....	9,800.00
47,000	Union Pacific RR. Co., 1st Mtge. RR. & L. G., 4%, 1947.....	44,058.00
7,000	United New Jersey RR. & Canal Co. Gen. Mtge., 4%, 1944.....	6,230.00
20,000	Vandalia RR. Co., Cons. Mtge. Series B, 4%, 1957.....	19,400.00

Bonds and Mortgages:

54,000	No. 2 Realty Corp., 1375-81 Broadway, N.W. cor. of West 37th St., N. Y. C., 5½%, 1935.....	54,000.00
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Stocks:

Shares		
50	American Superpower Corp., \$6 1st Preferred No Par.....	4,975.00
140	Elec. Bond & Share Co., \$6 Preferred No Par.....	14,805.00
100	Louisville Gas & Elec. Co., 6% Cum. Preferred \$100 Par.....	10,750.00
100	N. Y., Lackawanna & Western RR. Co., 5%, Capital Gtd. \$100 Par	9,615.00
600	Pullman, Inc., Capital, no par.....	11,975.00

\$672,610.50

Securities

Endowment Fund

ANNA M. HARKNESS ENDOWMENT ACCOUNT

Bonds:

\$50,000	American Gas & Elec. Co. Deb. Gold, 5%, 2028.....	\$ 50,250.00
30,000	Armour & Co. Ill. Real Estate 1st Mtge., 4½%, 1939.....	30,832.75
50,000	Boston & Maine RR. 1st, 5%, 1967.....	49,757.50
50,000	Chic. Mil. St. P. & Pac. RR. Co. Gtd. Series A, 5%, 1975.....	47,881.25
42,000	Cortlandt & Dey Sts. Corp. Deb. 4%, 1952.....	42,000.00
25,000	Glen Alden Coal Co., 1st 4%, 1965.....	21,353.75
25,000	N. Y. C. R. R. Co., Conv. Col. Tr. Sec'd, 6%, 1944.....	27,900.00
50,000	N. Y. Edison Co. 1st lien & Refg. Mtge., Ser. C, 5%, 1951.....	48,375.00
50,000	Pennsylvania Power & Light Co. 1st 4½%, 1981.....	46,843.75
19,000	St. Joseph Lead Co., Conv. Deb. 5½%, 1941.....	21,242.50
4,000	Southern California Edison Co. Refg., 5%, 1954.....	4,075.00

Shares *Stocks:*

200	American Can Co., Common, \$25 par.....	20,725.00
500	American Gas & Elec. Co., \$6 Preferred No Par.....	53,375.00
500	Buffalo, Niagara & Eastern Power Corp. 1st Pfd. No Par.....	48,225.00
500	Columbia Gas & Elec. Corp. 6% Cum. Pfd. Ser. A, \$100 Par.....	54,875.00
500	Consolidated Gas Co. of N. Y. \$5 Cum. Preferred No Par.....	51,975.00
3,500	Consolidated Oil Corp., Common No Par.....	104,000.00
200	Corn Products Refining Co., Common, \$25 par.....	15,440.00
700	Cortlandt & Dey Sts. Corp. Capital \$1 par.....	28,000.00
500	Indianapolis Power & Light 6½% Cum. Preferred \$100 Par.....	52,875.00
400	Louisville Gas & Elec. 6% Cumulative Preferred \$100 Par.....	42,925.00
500	New York, Chicago & St. L. RR. 6% Cum. Pfd. Series A, \$100 Par.....	54,500.00
200	Public Service Elec. & Gas Co., \$5 Cum. Pfd. No Par.....	17,827.33
1,000	Standard Oil Export Corp., 5% Gtd. Cum. Pfd. non voting \$100 Par.....	99,265.00
200	F. W. Woolworth Co., Common, \$10 Par.....	10,585.00
		\$1,045,103.83

GEORGE F. BAKER ENDOWMENT ACCOUNT

Bonds:

\$ 2,000	Consolidated Gas Co. of N. Y., Deb. 4½%, 1951.....	\$ 1,985.00
30,000	Cortlandt & Dey Sts. Corp., Deb. 4%, 1952.....	30,000.00
50,000	Pennsylvania RR. Co., Gen. Mtge. Series "B," 5%, 1968.....	50,012.50

Stocks:

500	Cortlandt & Dey Sts. Corp., Capital, \$1 Par.....	20,000.00
		\$101,997.50

LADIES' AUXILIARY ENDOWMENT ACCOUNT

Bonds:

\$ 5,000	Missouri & Ill. Bridge & Belt. RR. Co., 1st Mtge. 4%, 1951.....	\$ 5,000.00
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Securities

Endowment Fund

ROCKEFELLER ENDOWMENT ACCOUNT

Bonds:

\$50,000	Alleghany Corporation 15-yr. Col. Tr. Conv. 5%, 1944	\$ 51,450.00
15,000	Canadian Pacific Ry. Co. Col. Tr. Gold, 5%, 1954	14,962.50
50,000	Central Pacific Ry. Co., 1st Rfdg., Mtge., 4%, 1949	43,050.00
100,000	Chesapeake & Ohio Ry. Genl. Mtge. 4½%, 1992	96,906.25
50,000	C., B. & Q. RR. Ser. A, 1st & Rfdg. 5%, 1971	49,322.50
20,000	Cincinnati Union Terminal Co. 1st Mtge., Series "B" 5%, 2020	19,450.00
24,000	Cortlandt & Dey Sts. Corp. Deb. 4%, 1952	24,000.00
50,000	Kreuger & Toll Co. Secured Skg. Fund Gd. Deb., 5%, 1959	47,625.00
50,000	Lackw'a Steel Co. Conv., 1st Cons. Mtge. Ser. A, 5%, 1950	49,312.50
25,000	P. Lorillard Co., Gold, 5%, 1951	24,037.50
50,000	New Eng. Tel. & Tel. Co. 1st Series A, 5%, 1952	48,735.00
50,000	New Eng. Tel. & Tel. Co. 1st Series B, 4½%, 1961	47,225.00
40,000	New York Central RR. Co. Cons. Mtge., Series A, 4%, 1998	32,015.00
50,000	New York Central RR. Co. Rfdg. & Imp. Ser. C, 5%, 2013	47,562.50
1,000	Southern California Edison Co. Refg., 5%, 1954	1,018.75
50,000	Union Pacific RR. Co. 1st RR. & L. G., 4%, 1947	45,693.75
50,000	West. Union Tel. Co., Funding & R. E., Mtge., 4½%, 1950	46,735.75

Shares *Stocks:*

505	American Tobacco Co. \$6 Cum. 1st Pfd. \$100 Par	56,230.63
600	Consolidated Gas Co. of N. Y., Common, No Par	21,077.50
400	Cortlandt & Dey Sts. Corp., Capital \$1 Par	16,000.00
200	E. I. DuPont De Nemours & Co., Common, \$20 Par	18,340.00
300	Liggett & Meyers Tobacco Co., Common B, \$25 Par	22,480.00
500	National Biscuit Co., Common, \$10 Par	22,825.00
300	New Jersey Zinc Co., Capital, \$25 Par	18,952.50
565	Morris & Essex RR. Co., Capital, \$50 Par	45,623.75
900	Pullman, Inc., Capital, No Par	19,450.00

\$930,081.38

JACOB H. SCHIFF ENDOWMENT ACCOUNT

Bonds:

\$25,000	American Telephone & Telegraph Co. Skg. Fund, 5%, 1960	\$ 25,250.00
2,000	Consolidated Gas Co. of N. Y., Deb. 4½%, 1951	1,985.00
50,000	N. Y. Steam Corp., 1st Mtge., 5%, 1951	47,625.00

Stocks:

Shares		
300	Morris & Essex RR. Co., Capital, \$50 Par	24,225.00

\$99,085.00

Securities

Endowment Fund

SAGE ENDOWMENT ACCOUNT

Bonds:

\$50,000	Central Pacific Ry. Co., 1st Rfdg., 4%, 1949.....	\$ 43,983.75
75,000	Chi., Burl. & Quincy RR. Co. 1st & Rfdg., Ser. A, 5%, 1971	75,605.00
6,000	Erie RR. Co. Prior Lien 4%, 1996.....	3,015.00
5,000	Ill. Central RR., Chic. St. L. & N. O. RR. Co., Jt., 1st Rfdg., Series "A," 5%, 1963	5,022.50
21,000	Interborough Rapid Transit Co., 1st & Rfdg. Gold Stamped, 5%, 1966	13,413.75
10,000	New York Central RR. Co. Cons. Mtge. Series "A" Gold, 4%, 1998	8,034.00
50,000	New York Central RR. Co. Rfdg. & Impr. Series "C," 5%, 2013	47,250.00
4,000	New York State Rys. 50-yr. 1st Cons. Gold Series "A," 4½%, 1962	2,645.00
10,000	Oregon, Wash. RR. & Nav. Co., 1st Rfdg. Mtge. Series "A," 4%, 1961	6,500.00
15,000	Pennsylvania RR. Co., Secured, 5%, 1964	15,018.75
5,000	Rochester Ry. & Lt. Co. Cons. Mtge. Gold, 5%, 1954	4,475.00
6,000	Schenectady Ry. Co. 1st Mtge. 30-yr. Series "A" Gold, 5%, 1946	3,690.00
8,000	Southern California Edison Co. Ltd. Refg. Mtge., 5%, 1954	8,150.00
100,000	South. Pacific Co. 40-yr. Gold Bonds of 1929, 4½%, 1969..	99,125.00

Shares *Stocks:*

100	American Tobacco Co. \$6 Cum. 1st Preferred, \$100 Par.....	10,899.20
200	Atchison, Topeka & Santa Fe Ry. Co. \$5 Preferred, \$100 Par	14,525.00
650	Bankers Trust Co. Capital, \$10 Par.....	29,250.00
51	Chicago & Northwestern Ry. Co. Common, \$100 Par.....	3,184.31
500	Consolidated Gas Co. of N. Y. \$5 Cum. Preferred, No Par	47,000.00
800	Consolidated Gas Co. of N. Y. Common, No Par.....	29,120.00
300	E. I. DuPont DeNemours & Co. Common, \$20 Par.....	27,810.00
287-212/600	Electric Bond & Share Co., Common, No Par.....	5,330.50
360	Electric Bond & Share Co., \$6 Preferred, No Par.....	38,070.00
2,008	General Electric Co., Common, No Par.....	27,610.00
176	General Electric Co., Special, \$10 Par.....	1,760.00
112	Illinois Central RR. Co., Common, \$100 Par.....	12,742.53
300	Liggett & Myers Tobacco Co., Common B, \$25 Par.....	22,670.00
500	National Biscuit Co., Common, \$10 Par.....	22,825.00
400	New Jersey Zinc Co., Common, \$25 Par.....	25,120.00
200	Pennsylvania RR. Co., Capital, \$50 Par.....	8,031.37
220	Pullman Incorporated, Capital, No Par.....	9,636.00
334	Radio Corp. of America, Common, No Par.....	
100	Union Pacific RR. Co., \$4 Preferred, \$100 Par.....	6,237.50
250	United States Steel Corp., 7% Cum. Preferred, \$100 Par.....	27,359.38
38	Western Union Telegraph Company, Capital, \$100 Par.....	3,477.00

\$708,585.54

Special Endowment Fund**CADWALADER ANIMAL ENDOWMENT ACCOUNT***Bonds:*

\$20,000	Illinois Central RR. Co. & Chic. St. L. & N. O. RR. Co. Jt. 1st Rfdg. Mtge. Series "A," 5%, 1963.....	\$ 20,000.00
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WILLIAM E. DAMON ENDOWMENT ACCOUNT*Bonds:*

\$10,000	North American Edison Deb. C., 5%, 1969.....	\$ 9,705.00
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FLORENCE LYDIG STURGIS ENDOWMENT ACCOUNT*Bonds:*

\$10,000	American Telephone & Tel. Co. Skg. Fund, 5½%, 1943	\$ 9,987.50
5,000	Consolidated Gas Co. of N. Y., Deb. 4½%, 1951	5,081.25
		<u>\$ 15,068.75</u>

STOKES BIRD ENDOWMENT ACCOUNT*Bonds:*

\$ 5,000	Illinois Central RR. Co. Rfdg. Mtge., 4%, 1955	\$ 5,056.46
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CARNEGIE PENSION ENDOWMENT ACCOUNT*Bonds:*

\$25,000	Chicago & Northwestern Ry. Co., Genl. Mtge. 4%, 1987.....	\$ 23,687.50
25,000	Illinois Central RR. Co., Rfdg. Mtge. 4%, 1955	23,062.50
25,000	Lehigh Coal & Nav. Co., Cons. Mtge. Skg. Fd., 4½%, 1954	24,875.00
1,000	Michigan Central RR. Co., Gold Bond, 3½%, 1952	817.50
5,000	Morris & Essex RR. Co., 1st Rfdg. Mtge., 3½%, 2000	4,373.75
25,000	Philadelphia & Baltimore Cen. RR. Co., 1st Mtge., 4%, 1951	23,250.00
		<u>\$100,066.25</u>

Special Funds**AUXILIARY PENSION ACCOUNT***Bonds:*

\$ 6,000	Armour & Co. Ill. Real Estate 1st Mtge., 4½%, 1939.....	\$ 6,090.00
5,000	Penna. Water & Power Co., 1st Mtge. S/F 5%, 1940	5,550.00

Bonds and Mortgages:

\$32,000	Harclin Realty Corp., 172 E. 85th St., N. Y. C., 5%, 1935	\$ 32,000.00
14,000	No. 2 Realty Corp., 1375-81 Broadway, N.W. cor. of W. 37th St., N. Y. C., 5½%, 1935.....	14,000.00
		<u>\$ 57,640.00</u>

BIOLOGICAL LABORATORY CONSTRUCTION ACCOUNT

\$20,000	United States of America Treasury Notes, 3¼%, 1937	<u>\$ 19,925.00</u>
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ANIMAL ACCOUNT

\$10,000	N. Y. C. RR. Co., Conv. Coll. Tr. Sec'd. 6%, 1944	\$ 11,150.00
11,000	St. Joseph Lead Co., Conv. Deb. 5½%, 1941.....	12,188.75
		<u>\$ 23,338.75</u>

Pension Fund Income Account

Uninvested balance as of December 31, 1933:			
At The City Bank Farmers Trust Co.....	\$	34,651.64	
At Corn Exchange Bank Trust Co.....		1,081.36	
Cash on Hand		9.00	\$ 35,742.00
Investments at cost			133,668.00
RECEIPTS			\$169,410.00
Dividends from Stock Investments	\$	1,275.00	
Interest on Bond Investments (net)		5,559.00	
Dues Collected from Zoological Society Employees		5,929.73	12,763.73
Contributed by the N. Y. Zoological Society:			
Income from Carnegie Endowment	\$	4,335.00	
General Income Fund (transfer)		5,665.00	10,000.00
			\$192,173.73
EXPENDITURES			
Physical Examinations	\$	25.00	
Refund, Account Resignation		185.30	
Clerical Services and Tax on Checks		305.24	
Pension Payments		18,039.95	\$ 18,555.49
Investment at Cost: <i>Bonds</i> :			
\$ 2,000 N. Y. Cen. & H. R. R. R. (Lake Shores Col.),			
1998, 3½%	\$	1,300.00	
3,000 Union Pacific RR., first 1947, 4%		2,486.25	
5,000 Oregon Short Line RR., 1946, 5%		4,945.00	
6,000 Buffalo General Elec., first 1939, 5%		5,640.00	
1,400 Chic. Mil. St. P. & Pac. RR. Co., 1975, 5%		1,073.75	
5,600 Chic. Mil. St. P. & Pac. RR. Co., 2000, 5%		4,295.00	
5,000 Columbia Gas & Electric 1952, 5%		5,016.25	
7,000 Lackawanna Steel Co., first 1950, 5%		6,847.75	
12,000 C. B. & Q. RR., Ill. Divn., 1949, 3½%		9,462.00	
12,000 Detroit Edison Co., 1949, 5% Ref.		11,914.00	
13,000 B. & O. RR. Co., first 1948, 4%		11,322.75	
13,000 B. & O. (P.L.E.&W.Va.RR.), 1941, 4% Ref.		10,506.25	
17,000 I. C. & St. L. & N. O. RR. Co., Joint 1963, 5%		16,838.00	
19,000 Michigan Central RR., first 1952, 3½%		15,416.00	
10,000 Missouri Pac. RR. first Ref. 1977, 5%		9,675.00	
7,000 Calif. Edison Co. Ltd. Ref. 1954, 5%		6,930.00	
6,000 Cortl'dt & Dey St. Corp. 1952, 4% Reg. Deb.		6,000.00	
7,000 Cons. Gas Co. of N. Y. 1951, 4½% Deb.		7,000.00	
<i>Stock</i> :			
100 Shares Cortlandt & Dey St. Corp., Capital		4,000.00	
100 Shares Consolidated Gas Co. of N.Y., Com.		3,727.50	
100 Shares E. I. duPont de Nemours & Co., Com.		9,450.00	
100 Shares Liggett & Myers Tobacco Co., Com.		7,720.00	
100 Shares National Biscuit Co., Common		4,627.50	166,193.00
Uninvested balance, December 31, 1934:			
At The City Bank Farmers Trust Co.....	\$	6,160.64	
At Corn Exchange Bank Trust Co.....		1,264.60	7,425.24
			\$192,173.73

H. R. MITCHELL,
Asst. to Treasurer in Charge of Pensions
 January 1, 1935.

CORNELIUS R. AGNEW,
Treasurer

PEAT, MARWICK, MITCHELL & CO.

ACCOUNTANTS AND AUDITORS

40 Exchange Place

New York, N. Y.

Accountants' Report

Mr. George C. Clark, Chairman, Auditing Committee,
New York Zoological Society, New York, N. Y.

We have made an examination of the accounts of the New York Zoological Society and of the "Pension Fund Income Account" for the year ended December 31, 1934. In connection therewith, we examined accounting records of the Society and other supporting evidence and obtained information and explanations from officials and employees of the Society.

The subscriptions, donations and dues reported as received, and income from investments have been properly accounted for. The securities and cash balances as at December 31, 1934, as shown in the accounts of the funds presented herewith, have been checked and found in agreement with a certified list of securities obtained from the custodian and acknowledgments of bank balances obtained from the depositories. Satisfactory vouchers have been produced for the expenditures.

In our opinion, based upon such examinations, the foregoing schedules present the condition of the funds as at December 31, 1934, and the transactions relating to the funds of the Society and the Pension Fund Income Account for the year.

New York, N. Y.

PEAT, MARWICK, MITCHELL & CO.

March 4, 1935

Report of the Auditing Committee

OF THE

NEW YORK ZOOLOGICAL SOCIETY

To the President and Board of Trustees
of the New York Zoological Society:

Dear Sirs:—

We would report that we have examined the annual audit of the books and accounts of the New York Zoological Society for the year ending December 31, 1934, made by Messrs. Peat, Marwick, Mitchell & Co., accountants and auditors, and herewith submit the same to you as a complete and satisfactory audit of said books and accounts, including the General Endowment Fund, Special Endowment Funds, Income Fund, the Carnegie Pension Fund, the Pension Fund Income Account and the Privilege Account, it appearing that all expenditures and receipts of the various accounts are fully set forth therein, that the cash on hand and at the various depositories has been verified and found correct, and that all securities in which the funds of the Society are invested have been examined and found as reported.

Respectfully submitted,

GEORGE C. CLARK, *Chairman.*
J. WATSON WEBB
GRAFTON H. PYNE

April 2, 1935.

Subscriptions

Subscriptions to the General Endowment Fund of the New York Zoological Society

Five thousand dollars and over.

Ogden Mills	\$60,000.00
Mrs. Frederick F. Thompson	55,000.00
E. C. Converse	50,000.00
Edwin Gould	40,000.00
Percy R. Pyne	35,000.00
George F. Baker	25,000.00
James B. Ford	25,000.00
T. Coleman du Pont	25,000.00
Marie DeWitt Jesup	25,000.00
Cleveland H. Dodge	25,000.00
Jacob H. Schiff	25,000.00
Samuel Thorne	25,000.00
Charles E. Rhinelanders	23,222.15
Watson B. Dickerman	20,000.00
J. P. Morgan	20,000.00
Lispenard Stewart	12,500.00
Frank W. Kitching	10,329.16
Edward S. Harkness	10,000.00
James J. Hill	10,000.00
Henry Iden	10,000.00
David Lydig	10,000.00
Levi P. Morton	10,000.00
John D. Rockefeller, Jr.	10,000.00
Edward Russ	10,000.00
Phoebe Anna Thorne	10,000.00
C. F. Dieterich	6,000.00
Mortimer L. Schiff	6,000.00
Abram G. Nesbit	5,500.00
John D. Archbold	5,000.00
Samuel P. Avery	5,000.00
Samuel R. Betts	5,000.00
Frederick G. Bourne	5,000.00
Robert S. Brewster	5,000.00
John L. Cadwalader	5,000.00
Andrew Carnegie	5,000.00
Hugh J. Chisholm	5,000.00
George C. Clark	5,000.00
George J. Gould	5,000.00
Archer M. Huntington	5,000.00
George W. Perkins	5,000.00
Nelson Robinson	5,000.00
John A. Roebling	5,000.00
F. K. Sturgis	5,000.00
Henry A. C. Taylor	5,000.00
Edwin Thorne	5,000.00
Emily Trevor	5,000.00

Contributions

Contributions to Special Funds of the New York Zoological Society

Five thousand dollars and over.

Harrison Williams	\$194,768.31
Mortimer L. Schiff	59,890.00
Andrew Carnegie	31,000.00
George F. Baker	30,000.00
Jacob H. Schiff	22,300.00
Edward S. Harkness	21,000.00
George D. Pratt	21,000.00
Samuel Thorne	18,950.00
Anthony R. Kuser	16,200.00
Marshall Field	16,100.00
Robert S. Brewster	16,000.00
George J. Gould	15,300.00
Cleveland H. Dodge	15,125.00
John D. Rockefeller	15,000.00
E. C. Converse	14,000.00
Percy R. Pyne	12,450.00
Lispenard Stewart	10,250.00
John D. Archbold	10,100.00
Vincent Astor	10,000.00
Mrs. Andrew Carnegie	10,000.00
Clarence Dillon	10,000.00
Mrs. Frederick F. Thompson	10,000.00
William Rockefeller	9,000.00
Charles F. Dieterich	8,800.00
Levi P. Morton	8,500.00
Charles T. Barney	7,500.00
F. Augustus Schermerhorn	7,500.00
Cornelius Vanderbilt	7,500.00
C. Ledyar Blair	6,750.00
A. Barton Hepburn	6,500.00
Mrs. Finley J. Shepard	6,400.00
John Cadwalader	6,200.00
Oliver H. Payne	6,000.00
Henry A. C. Taylor	6,000.00
William K. Vanderbilt	6,000.00
William C. Whitney	6,000.00
Nelson Robinson	5,900.00
John S. Barnes	5,750.00
Frederick G. Bourne	5,500.00
J. P. Morgan	5,500.00
Emerson McMillan	5,280.00
Oswald Ottendorfer	5,250.00
William D. Sloane	5,250.00
Edward J. Berwind	5,000.00
William E. Dodge	5,000.00
Robert Goelet	5,000.00
C. P. Huntington	5,000.00
Mrs. John B. Trevor	5,000.00
Mrs. Antoinette E. Wood	5,000.00

LIST OF ACCESSIONS BY THE
New York Zoological Society

AT THE ZOOLOGICAL PARK

1934

BY GIFT

- ABBOTT, J. H., Larchmont, N. Y.:
Opossum.
- ADAMS, J., Babylon, L. I., N. Y.:
Alligators (2 specimens).
- ALLEN, JOSEPH S., Port Washington, L. I., N. Y.:
Mute Swan.
- AMERICAN SOCIETY FOR THE PREVENTION OF CRUELTY TO ANIMALS, New York
City:
Opossum.
- ANDERS, JOHN F., Kitchawan, N. Y.:
Snapping Turtle.
- ANDERSON, MR. and MRS. PRICE, New York City:
Pilot Blacksnake.
- APPLEBOME, JEROME, New York City:
Raccoons (2 specimens).
- ARCHIBALD, WARREN, New Kingston, N. Y.:
Puma.
- ASTOR, MR. and MRS. VINCENT, Rhinebeck, N. Y.:
Orang-Utan.
- AYRES, DOUGLAS, JR., Fort Plain, N. Y.:
Alligator.
- BACIGALUPI, L., JR., Brooklyn, N. Y.:
Sharp-Nosed Snake.
- BAGERSKOV, ARNOLD, New York City:
Painted Turtle.
- BARNES, MRS. MILDRED, New York City:
White Rats (14 specimens).
- BASSI FRÈRES, New Rochelle, N. Y.:
Alligator.
- BATTAGLIN, PHILOPO, New York City:
Woodchuck.
- BATTIE, MISS ANN, New York City:
Alligator.
- BAUMAN, FRED, New York City:
Grebe.
- BAUMANN, MRS. A., New York City:
Greater Scaup Duck.
- BECHTOLD, WILLIAM, JR., Herkimer, N. Y.:
Garter Snakes (3 specimens).
- BELLMORE, MISS B., New York City:
Chameleon.
- BERNE-ALLEN, ALLAN, New Dorp, S. I., N. Y.:
African Side-Necked Turtle.

- BERNSTEIN, HERBERT, New York City:
Copperhead Snake.
- BLUM, E., JR., New York City:
Lesser Scaup Duck.
- BOCH, MAX, Astoria, L. I., N. Y.:
Greater Scaup Duck.
- BODNAR, MISS ELIZABETH, New York City:
2 Box Turtles, 1 Painted Turtle.
- BOURON, MRS. MAUDE, Crestwood, N. Y.:
Blue-Fronted Amazon.
- BOWDISH, BEECHER S., Newark, N. J.:
Bay-Winged Cowbird.
- BOWERS, MRS. M., New York City:
Slider Turtles (2 specimens).
- BRANCATI, HECTOR C., New York City:
Ring-Necked Pheasant.
- BRANDT, H. L., New York City:
Ring-Necked Pheasant.
- BRAVERMAN, DAVID, New York City:
Painted Turtles (7 specimens).
- BREEDING AND LABORATORY INSTITUTE, New York City:
150 White Rats, 10 White Mice.
- BREWSTER, MISS ELLEN, New York City:
Alligators (3 specimens).
- BRINK, DR. F. A., Jacksonville, Fla.:
Coral Snake.
- BROAD STREET SCHOOL, Glens Falls, N. Y.:
Alligator.
- BROCKMULLER, H., New York City:
European Jackdaw.
- BURDEN, J., and ROOSEVELT, QUENTIN, Groton, Conn.:
Gila Monster.
- BURKE, A., New York City:
Alligators (2 specimens).
- BURKE, J. A., New York City:
Canary.
- BUTTFIELD, WILLIAM S., Hewlett, L. I., N. Y.:
Python.
- CALDICOTT, C., New York City:
Alligator.
- CAROTHERS, MISS CLARA, New York City:
Gopher.
- CARR, MISS MABEL F., Yonkers, N. Y.:
Alligator.
- CASE, H. S., New York City:
Woodchucks (2 specimens).
- CASH, BOGAN B., JR., New York City:
Horned Lizards (2 specimens).
- CHRISTIE, MISS RUBY, New York City:
Rabbit.
- CLARK, DR. HERBERT C., Ancon, Canal Zone:
Vampire Bats (3 specimens).
- CONSERVATION DEPARTMENT, through WHITFORD, HAROLD K., New York City:
Virginia Cardinal.
- COOK, MRS. H., New York City:
Alligator.

- COTTER, VINCENT C., New York City:
Box Tortoise.
- CROCKER LABORATORY, New York City:
2,245 White Rats, 732 White Mice, 10 Rabbits. Total, 2,987 specimens.
- CROSS, THOMAS N., Bernardsville, N. J.:
Box Turtle.
- CURLEY, J., New York City:
Alligator.
- CURLEY, WILLIAM, New York City:
Alligators (2 specimens).
- DAVIDSON, A. R., Ridgewood, N. J.:
Diamond Dove.
- DOMINICK, BAYARD, II, New Canaan, Conn.:
Macaque Monkey.
- DOOLEY, MRS. C. W., New York City:
Yellow-Naped Amazon.
- DUBOIS, F. M., New Rochelle, N. Y.:
American Crow.
- DURAN, F. A., New York City:
South American Rat Snake.
- EBBITT, WALTER D., JR., New York City:
13 Painted Turtles, 1 Spotted Turtle, 1 Soft-Shell Turtle, 19 Box Turtles,
4 Garter Snakes, 2 Black Snakes, 1 Alligator. Total, 41 specimens.
- EGELUND, OSCAR, Amityville, L. I., N. Y.:
Leopard Tortoise.
- ENCHCOMB, EDWIN, New York City:
Horned Lizards (2 specimens).
- ERBER, PAUL, Clifton, N. J.:
Black Snakes (5 specimens).
- ERIKSEN, ANDREW J., New Rochelle, N. Y.:
Gray-Breasted Parrakeet.
- ESCHEN, MISS MARGARET C., New York City:
Box Tortoises (2 specimens).
- FASULY, J., New York City:
Painted Turtle.
- FERGUSON, H. L., Sarasota, Fla.:
Water Snakes (2 specimens).
- FERRANTE, JOHN, New York City:
Central American Boa.
- FERRERO, GEORGE, New York City:
Chicken Snake.
- FIELD, MRS. MARSHALL, New York City:
Lesser Hill Myna (2 specimens).
- FILSINGER, LEONARD, Brooklyn, N. Y.:
Alligator.
- FISCHER, JOHN J., New York City:
Canvas-Back Duck.
- FITZ, WILLIAM G., New Rochelle, N. Y.:
Black Snake.
- FLEISCHMAN, C. E., New York City:
Alligator.
- FORBES, JOHN R., Stamford, Conn.:
Porcupines (2 specimens).
- FORDHAM PET SHOP, New York City:
Rabbits (8 specimens).

- FRAMPTON, HENRY G., Miami, Fla.:
Coral Snake.
- FRANCIS, FREDERICK, New York City:
White Rats (26 specimens).
- FRIEDLAND, AL, and MACHOL, ROBERT, New York City:
1 Hog-Nosed Snake, 1 Black Snake, 1 Milk Snake, 1 Ribbon Snake, 2 Garter Snakes, 3 Water Snakes. Total, 9 specimens.
- FRIEDMAN, J., New York City:
Screech Owl.
- FULLER, GEORGE C., New York City:
White-Winged Scoter.
- FULTON, G. R., New York City:
Opossum.
- GALM, JOHN, New York City:
2 Garter Snakes, 2 Ribbon Snakes, 1 Copperhead Snake, 1 Texas Diamond-Back Rattlesnake, 3 Water Snakes, 2 Wood Turtles, 2 Painted Turtles, 1 Box Turtle, 3 Bull Frogs, 1 Woodchuck. Total, 18 specimens.
- GARTNER, MISS ILSE, Maywood, N. J.:
Coati Mundi.
- GERRY, ROBERT L., New York City:
Screech Owl.
- GIFFORD, E. W., Oakland, Calif.:
Japanese Pigeons (2 specimens).
- GLADMAN, G. C., New York City:
Wood Turtle.
- GOLLEY, EMIL O., New York City:
White Rats (8 specimens).
- GRATH, JULIUS, New York City:
American Coot.
- GREEN, MRS. S. B., New York City:
Green Parrotlets (2 specimens).
- GREENHALL, ARTHUR M., New York City:
1 Coati Mundi, 1 Cuban Amazon.
- GREENHALL, HARRY, Larchmont, N. Y.:
Box Turtle.
- GREGORY, MISS HELEN M., Brooklyn, N. Y.:
1 Diamond Dove, 2 Green Monkeys.
- GRISTEDE BROTHERS, Mt. Vernon, N. Y.:
Green Grass Snake.
- GRISWOLD, LAWRENCE T. K., and HARKNESS, EDWARD H., New York City:
1 Cobra, 4 Green Tree Vipers.
- GROSS, THOMAS N., Bernardsville, N. J.:
3 Box Turtles, 2 Wood Turtles, 4 Painted Turtles, 1 Musk Turtle, 2 Snapping Turtles. Total, 12 specimens.
- GROWERS OUTLET, INC., Meriden, Conn.:
Tree Boa.
- GUTMAN, FRED, Richmond Hill, S. I., N. Y.:
Alligator.
- GUTTEN, GEORGE A., JR., Forest Hills, L. I., N. Y.:
Bull Snake.
- HAAS, GEORGE, JR., Mt. Kisco, N. Y.:
Canebrake Rattlesnake.
- HAAS, LAWRENCE V., MS *City of New York*, Brooklyn, N. Y.:
1 South African Tortoise, 1 Egg-Eating Snake.
- HANLON, M. CLAUDE, New York City:
Cotton-Headed Marmoset.

- HARDWICKE, MRS. GEORGE W., Norwalk, Conn.:
Wood Turtles (2 specimens).
- HARKNESS, EDWARD H., and GRISWOLD, LAWRENCE T. K., New York City:
1 Cobra, 4 Green Tree Vipers.
- HARPER, MRS. JOHN M., Gladstone, N. J.:
Alligator.
- HARRISON, HERBERT, Brooklyn, N. Y.:
Blue Racers (2 specimens).
- HAYDE, MISS DORA, New York City:
Chaffinch.
- HELMERS, LEON, Mamaroneck, N. Y.:
Opossum.
- HITCH, C. HEWLETT, New York City:
Milk Snake.
- HODGE, MR. and MRS. SHELDON, Echo Lake, Pa.:
Yellow-Backed Lory.
- HUFNER, HERMAN, New York City:
Water Snake.
- HUGHES, T. P., Jackson Heights, L. I., N. Y.:
Ariel Toucan.
- JACKMAN, SAMUEL JUSTIN, New York City:
Screech Owl.
- JAMES, W. H., New York City:
Horned Lizards (2 specimens).
- JONES, MRS. JENNIE, Phoenicia, N. Y.:
1 Rhesus Monkey, 2 Alligators.
- KANEVSKY, O., New York City:
Canary.
- KARCHER, DUNCAN E., New York City:
Rabbits (2 specimens).
- KAYNOR, W. F., Waterbury, Conn.:
Hog-Nosed Snake.
- KEENEY, FRANK J., New York City:
Eastern Robin.
- KELLY, MATTHEW, New York City:
Nyassa Lovebird.
- KELLY, MRS. JOHN, New York City:
Blue-Headed Parrot.
- KENKWOOD, A., Brooklyn, N. Y.:
White Mice (20 specimens).
- KING, GEORGE W., Murfreesboro, Tenn.:
Opossum.
- KIPP, J. GASTON, Yonkers, N. Y.:
Alligator.
- KNICKERBOCKER CANOE CLUB, New York City:
Herring Gull.
- KRAEMER, A., New York City:
Green Grass Parrakeet.
- KUHN, W. A., Newark, N. J.:
Alligator.
- KURST, MISS ESTHER, DeBruce, N. Y.:
Great Horned Owls (2 specimens).
- LANG, BENJAMIN D., New York City:
Slider Turtles (2 specimens).
- LAWSON, MISS HYLDA, Gloucester, Va.:
Box Turtle.

- L'ESPERANCE, THOMAS, Poughkeepsie, N. Y.:
Red-Shouldered Hawk.
- LEVIN, ALBERT, New York City:
Painted Turtle.
- LIVI, MISS FRANCES, New York City:
Eastern Cardinal.
- LOCKE, OTTO MARTIN, New Braunfels, Texas:
1 Chicken Snake, 30 Horned Lizards, 1 Alligator Lizard. Total, 32 specimens.
- MCCULLOUGH, MRS. ROBERT H., Mamaroneck, N. Y.:
Alligator.
- MCDONALD, LLOYD, New York City:
Chameleon (2 specimens).
- MCGOUGHAN, MRS. C. V., Bronxville, N. Y.:
2 Green Grass Parrakeets, 2 Yellow Grass Parrakeets.
- MACHOL, ROBERT, and FRIEDLAND, AL, New York City:
1 Hog-Nosed Snake, 1 Black Snake, 1 Milk Snake, 1 Ribbon Snake, 2 Garter Snakes, 3 Water Snakes. Total, 9 specimens.
- MALIK, FRANK, New York City:
Long-Eared Owl.
- MALLINSON, HIRAM R., New York City:
Jaguar.
- MANTEL, JAMES, SS *President Polk*, New York City:
European Quail (7 specimens).
- MANVILLE, MRS. T. F., New York City:
Javan Hill Myna.
- MARESI, P. M., New York City:
Brown-Breasted Pygmy Grosbeak.
- MARIN, VICTOR, Jackson Heights, L. I., N. Y.:
3 Jamaican Mockingbirds, 1 D'Orbigny Blackbird, 1 Dickcissel, 1 Cuban Banana Tanager, 1 Purple Finch, 4 Cordon Bleus, 2 Orange-Cheeked Waxbills, 2 Strawberry Finches, 1 Melodious Grassquit, 1 White-Throated Seed-eater, 1 Pileated Finch, 1 Pygmy Seedeater, 1 European Goldfinch, 1 Red Siskin-Canary Hybrid. Total, 21 specimens.
- MARTINOG, HENRY, New York City:
Raccoon.
- MASON, JOHN, Garden City, L. I., N. Y.:
Albino Robin.
- MAYBARDUCK, LEON A., New York City:
Brazilian Troupial.
- MEAD, GEORGE D., White Plains, N. Y.:
Kinkajou.
- MENSING, ROBERT, Engineer, SS *Santa Clara*, New York City:
1 Orchard Finch, 1 Chilean Blackbird, 1 Black-Headed Finch, 1 European Goldfinch, 3 Lark-like Finches, 1 Magellan Robin, 2 Black Siskins, 4 Southern Blue Tanagers, 2 Bearded Siskins, 2 Diuca Finches, 1 Southern Rice Grackle, 1 Little Euphonia, 1 Gay's Finch, 4 Black-Throated Siskins, 1 Chopi Blackbird, 2 Colombian Saffron Finches, 2 Picui Doves, 1 Pacific Grassquit, 1 South American Burrowing Hawk, 1 Chimango Carrion Hawk. Total, 33 specimens.
- MERGNER, ANDREW, New York City:
Box Turtles (7 specimens).
- MONTGOMERY, FRANK R., Lake Como, Fla.:
Coral Snake.
- MORRIS, MISS LOUISE R., New York City:
Wood Turtle.
- MUELLER, DR. GEORGE H., Jersey City, N. J.:
Troupial.

- MUENCH, NORMAN, Roosevelt, L. I., N. Y.:
Alligator.
- MURRAY, RODERICK, New York City:
Western Flicker.
- MUSSA, JOHN, New York City:
Mongoose.
- NATHAN, MRS. FLORENCE, Los Angeles, Calif.:
Central American Deer.
- NATURE ROOM, PUBLIC SCHOOL No. 104, New York City:
Pilot Blacksnake.
- NEILL, ROBERT, New York City:
Alligator.
- NEWILL, DR. D. S., McConnellsville, Pa.:
Sonnerat—Red Jungle Fowl Hybrid.
- NEWMAN, MONROE, New York City:
1 Wood Turtle, 1 Alligator.
- NEW ROCHELLE HUMANE SOCIETY, New Rochelle, N. Y.:
Mute Swan.
- NEW YORK AQUARIUM, New York City:
1 Herring Gull, 4 Egg-Eating Snakes, 1 African Monitor, 2 South American
Tortoises. Total, 7 specimens.
- NEW YORK ZOOLOGICAL EXCHANGE, New York City:
Opossum.
- NUGENT, E. C., New York City:
Purple Gallinule.
- O'CONNOR, QUENTIN, Brooklyn, N. Y.:
3 Box Turtles, 2 Painted Turtles.
- OLOFSON, MRS. G., New York City:
Kinkajou.
- OSBORN, WILLIAM CHURCH, Peekskill, N. Y.:
Beavers (2 specimens).
- PARKER, MRS. WILLIAM N., New Haven, Conn.:
Screech Owl.
- PARSELS, GEORGE, Orangeburg, N. Y.:
1 Copperhead Snake, 1 Garter Snake, 1 Water Snake, 3 Black Snakes. Total,
6 specimens.
- PATAKI, LOUIS, New York City:
Yellow-Fronted Amazon Parrot.
- PATTEN, MISS MARION, Norwalk, Conn.:
Holbell Grebe.
- PAULDING, MRS. L. B., New York City:
Pinche Marmosets (2 specimens).
- PENNING, MISS ESTELLE, New York City:
Gray Squirrel.
- PERILLO, MRS. JACK, New York City:
Guinea Pig.
- PESCHKO, MISS ROBERTA L., Danbury, Conn.:
1 Copperhead Snake, 1 Rattlesnake, 1 Moccasin. Total, 3 specimens.
- PHILLIPS, H. R., New Brighton, S. I., N. Y.:
Laughing Gull.
- PIERRE, MRS. LILLIAN C., Rye, N. Y.:
4 Sapajou Monkeys, 1 Raccoon, 1 Barraband Parrakeet, 2 Yellow Grassquits,
2 Cobalt Grass Parrakeets, 4 Green Grass Parrakeets, 2 White Turtle Doves,
2 Brazilian Silver-Beaked Tanagers. Total, 18 specimens.
- POMEROY, E. C., New Milford, Conn.:
Marine Toad.

- PONS, MADAME LILY, New York City:
Ocelot.
- POPKIN, ROYAL S., New York City:
Pilot Blacksnake.
- PREUSSLER, OTTO PAUL, New York City:
South American Boa.
- PRYIBIL, PAUL, Glen Cove, L. I., N. Y.:
Raccoon.
- Py, MRS. A., Ridgefield, N. J.:
Alligators (2 specimens).
- QUEDALIA, MRS. M., New York City:
Diamond-Back Terrapin.
- RIVAS, MRS. K., New York City:
Gray Fox.
- ROBBINS, GIBSON, New York City:
Alligators (2 specimens).
- ROBINSON, THOMAS S., Watkins Glen, N. Y.:
Red-Shouldered Hawks (3 specimens).
- ROOSEVELT, QUENTIN, and BURDEN, J., Groton, Conn.:
Gila Monster.
- ROSEN, JUDITH, New York City:
Alligator.
- ROWE, ROBERT, JR., New York City:
King Snake.
- RUSKOWSKI, J., New York City:
Grebe.
- RUSSO, SALVATORE, New York City:
Osprey.
- SAM'S PET SHOP, New York City:
Red-Tailed Hawk.
- SCHAEFER, JOHN K., New York City:
1 Florida Gopher, 1 Chilean Snake.
- SCHECHTER, MISS FREDa, New York City:
Alligator.
- SCHROETER, MRS. A., New York City:
White-Winged Parrakeet.
- SCHWAB, ELLIS M., Richmond, Va.:
Mud Turtle.
- SCHWARZ, MISS HORTENSE, New York City:
Central American Boa.
- SKIDMAN, JACOB, New York City:
Box Turtles (2 specimens).
- SELBACK, MASTER ROBERT, Clifton, N. J.:
Alligator.
- SEMBDNER, MISS HELEN, Richmond Hill, L. I., N. Y.:
Greater Scaup Duck.
- SIEVERS, H., New York City:
Alligators (2 specimens).
- SISTERS OF THE IMMACULATE CONCEPTION, New York City:
Brazilian Silver-Beaked Tanager.
- SMITH, D. A., Islip, L. I., N. Y.:
Horned Lizard.
- SMITH, ERNEST E., New York City:
White Rats (55 specimens).
- SMITH, MISS ETHEL, Jackson Heights, L. I., N. Y.:
Slider Turtle.

- SMITH, LIVINGSTON, New York City:
Langur.
- SOHL, MRS. M., Ozone Park, L. I., N. Y.:
Alligator.
- SORENSEN, JOHN, New York City:
Herring Gull.
- SPANO, JOSEPH, Larchmont, N. Y.:
1 Opossum, 1 Muskrat.
- STATEN ISLAND ZOOLOGICAL SOCIETY, West New Brighton, S. I., N. Y.:
1 Flying Snake, 2 Malayan Green Tree Snakes, 2 Mangrove Snakes, 1 sp.
Cylindrophis. Total, 6 specimens.
- STEPHENS, CHARLES, New York City:
Hog-Nosed Snake.
- STONE, VERNAR, Roosevelt, L. I., N. Y.:
Rhesus Monkey.
- TABENHOUSE, B., New York City:
2 Muhlenberg Turtles, 1 Water Snake.
- TOMASI, MARC, New York City:
Woodchuck.
- TRATTA, ALBERT, New York City:
Box Tortoise.
- TROLLEY, ARTHUR E., Lourenco Marques, Portugese East Africa:
Leopard Tortoise.
- TUDIER, MRS. A., White Plains, N. Y.:
White-Faced Sapajou.
- TURNER, JEREMIAH, Aiken, S. C.:
Florida Blue Jay.
- TWEEDY, A. M., New York City:
Spectacled Bears (2 specimens).
- TYLER, C. C., Ocala, Fla.:
Pilot Water Snake.
- VAN WANDELEN, JOHN, Ozone Park, L. I., N. Y.:
European Blackbird.
- VILLANERA, MRS. S. M., New York City:
Rabbit.
- VLIEK, P. C., SS *Amor*, New York City:
West Indian Green Herons (2 specimens).
- VOLKMAN, A., JR., White Plains, N. Y.:
Grebe.
- VOSS, MRS. E. S., Old Westbury, L. I., N. Y.:
Canada Lynx (2 specimens).
- WADE, CHARLES, Hoboken, N. J.:
Ring-necked Pheasant.
- WAGENBLAST, L., New York City:
Green Monkey.
- WARD, LEROY P., Great Neck, L. I., N. Y.:
Common Myna.
- WAUCHOPE, CAPTAIN GEORGE, MS *City of New York*, Brooklyn, N. Y.:
2 Hinge-Backed Tortoises, 1 South African Tortoise.
- WHITE, MISS DOROTHY, New York City:
Alligator.
- WIDMAN, JOHN, Patterson, N. Y.:
Green Snake.
- WIENER, H., New York City:
White Rats (12 specimens).
- WILLIAMS, RALPH M., Arbuckle, Calif.:
Boyle's King Snake.

- WOLSKI, L. D., New Britain, Conn.:
 Red-Tailed Hawk.
 WOOD, CONGDON, Cape Cottage, Maine:
 Pilot Blacksnake.
 YAEGER, E. E., New York City:
 Garter Snakes (3 specimens).
 ZABRISKIE, MRS. PAUL, New York City:
 Raccoon.
 ZIEGLER, MISS DOROTHY, College Point, L. I., N. Y.:
 Desert Tortoise.

National Collection of Heads and Horns

BY GIFT

- BRANSOM, PAUL, New York City:
 West African Bongo (*Boöcercus eurycerus*). Horns on skull.
 GRAY, PRENTISS N., New York City:
 Angola Lechwe (*Cobus lechwe*). Mounted Head.
 Kongoni, or Coke's Hartebeest (*Bubalis cokei*). Mounted Head.
 KEMP, MAURY, El Paso, Texas:
 Pronghorn Antelope (*Antilocapra americana*). Mounted Head.
 KIRK, DR. W. H., Pittsburgh, Pa.:
 Black Mountain Sheep (*Ovis stonei*). Mounted Head.

BY PURCHASE

- WARD, ROWLAND, LTD., London, England:
 Shapo, or Ladak Urial (*Ovis vignei*). Mounted Head.
 Persian Urial (*Ovis vignei arkal*). Mounted Head.

BY EXCHANGE

- TAFT SCHOOL, Watertown, Conn.:
 American Moose (*Alces alces americana*). Mounted Head.

BY DEPOSIT

- GRAY, PRENTISS N., New York City:
 Hunter's hartebeest (*Damaliscus hunteri*). Mounted Head.
 SHEARER, MELVIN, Rifle, Colo.:
 Black Mountain Sheep (*Ovis stonei*). Mounted Head.

Library

- GRANT, MADISON, New York City:
 The Conquest of a Continent, by Madison Grant.
 The Geographical Review, Vol. XXIII.
 Ephraim Ursus, American Pioneer, by Philip Ashton Rollins.
 LEDERER, NORBERT, New York City:
 Tropical Fish and Their Care, by Norman Lederer.
 SAMET, ARTHUR, New York City:
 Oddly Enough, by Arthur Samet.
 VANDERBILT, WILLIAM K., New York City:
 Bulletin of the Vanderbilt Marine Museum, Vol. I, by N. A. Borodin.
 Bulletin of the Vanderbilt Marine Museum, Vol. V, by Lee Boone.

Plants

- CHERSKY, MR., New York City:
 1 Rubber Plant (*Ficus elastica*).
 CUTHMORE, C. M., New York City:
 1 *Pandanus Veitchii*.

- DENZ, MRS. C., North Pelham, N. Y.:
2 Small Orange Trees.
- KROLL, MRS. WALTER J., New York City:
1 *Dracena massangeana*.
1 Poinsettia.
- LANDSMAN, MRS. J. H., New York City:
1 *Dracena massangeana*.
- RAPOPORT, MR., New York City:
1 Rubber Plant (*Ficus elastica*).
- SCHARICHER, MR., New York City:
1 Rubber Plant (*Ficus elastica*).
- SCHUMACHER, MRS., New York City:
1 Rubber Plant (*Ficus elastica*).
- SPIEGEL, MISS R., New York City:
2 *Sanseveria zeylanica*.
- STEINBERG, MRS., New York City:
1 Rubber Plant (*Ficus elastica*).

Miscellaneous

- CLIFFORD, DR. HENRY, Boston, Mass.:
Collection of Surgical Instruments.
- KUHN, CHARLES, New York City:
20 Bird Paintings for Bird Labels.

LIST OF ACCESSIONS BY THE
New York Zoological Society

AT THE AQUARIUM

1934

- ATWOOD 3D, MR. KIMBALL, Islip, L. I.:
Trachinotus carolinus (15 specimens).
- BACON, DR. EMANUEL H., Brooklyn, N. Y.:
Turtle.
- BADEN, MR. FRED E., Brooklyn, N. Y.:
Small Alligator.
- BARLEY, CAPTAIN DANIEL, Motorboat *Edith*, Elbow Island:
Kemp Turtle.
- BEBUS, MISS GRACE, New York City:
1 Painted Turtle, 1 Box Tortoise. Total 2 specimens.
- BELL, HON. FRANK T., U. S. Commissioner of Fisheries:
Trout (325 specimens).
- BELLMORE, MISS B., New York City:
Chameleon.
- BENNETT, MR. W. C., Red Bank, N. J.:
11 Brook Lampreys, 2 Snakes. Total, 13 specimens.
- BERGHAAN, MR. H., South Ozone Park, N. Y.:
1 Freak Guppy, 2 Hybrid Danios. Total, 3 specimens.
- BERI, MR. HENRY, New York City:
Small Cayman (2 specimens).
- BOUDREUX, BILLIE, New York City:
Turtles (2 specimens).
- BRADLEY, MR. THOS., New York City:
Mounted Tarpon.
- BRAUNSTEIN, MR. DAVID B., Brooklyn, N. Y.:
Small Alligators (2 specimens).
- BUHNER, MISS PAULINE, New York City:
Small Alligator.
- BUTTA, MR. J., Coney Island, N. Y.:
Filefish.
- CANDIDUS, MR. EDWARD A., New York City:
2 *Leporinus fasciatus*, 1 *Saccobranchus fossilus*. Total, 3 specimens.
- CARAMES, MR. L., New Brighton, S. I.:
Turtle.
- CARTWRIGHT, MISS LOIS, Bound Brook, N. J.:
Small Alligator.
- CONNERY, MISS WINIFRED, New York City:
Small Alligator.
- COSMOS Co., New York City:
Testudo tabulata (3 specimens).
- CRONIN, MR. J., New York City:
Small Alligator.
- DE PAUW, MRS. ALEXANDER, New York City:
Box Tortoise.
- DIECKMANN, MR. KARL, Bronx, N. Y.:
Male *Xiphophorus helleri*.

- DON'S PET SHOP, New York City:
4 Platy fish, 1 *Belonesox*. Total, 5 specimens.
- DRY MILK CO., INC., New York City:
3 pounds dried milk fishfood.
- EDGE, MR. JOHN PETER, New York City:
3 *Pterophyllum scalare*, 1 *Platypoecilus maculatus*, 1 pair *Trichogaster trichopterus*. Total, 6 specimens.
- ELLIS, MR. JOHN W., New York City:
Lamprey.
- ENGLE, MR. D. C., New York City:
Cichlasoma nigrofasciatus.
- FELITTO, MR. SAMUEL, New York City:
Snapping Turtle.
- FERGUSON, MR. B. F., Dobbs Ferry, N. Y.:
Snapping Turtles (3 specimens).
- FINKBEINER, MR. WARREN, New York City:
Small Alligators (2 specimens).
- FRANZISKA HEALTH FARM, Kingston, N. Y.:
Box Tortoise.
- FREEMAN, MR. A., Secaucus, N. J.:
Hell Diver.
- FROELICH, MR. JOSEPH, Forest Hills, N. Y.:
Collection of books and periodicals and separates on aquarium subjects.
- GALLAGHER, MR. GEO. G., Brooklyn, N. Y.:
Turtle.
- GANE, MR. JACK, North Port, L. I.:
Box Tortoise.
- GARNJOST, MR. C. P., Queens, N. Y.:
Turtle.
- GARRISON, MR. RICHARD, New York City:
Small Chameleon.
- GENERAL ELECTRIC RESEARCH LABORATORY, Schenectady, N. Y.:
Loggerhead Turtle.
- GIUNTA, MR. SALVATORE, New York City:
Snapping Turtle.
- GOETZ, MISS RUTH LOIS, Brooklyn, N. Y.:
Turtles (2 specimens).
- GOLDHAMMER, MRS., Brooklyn, N. Y.:
Salamander.
- GOLDSMITH, MR. H. STUART, New York City:
Albino Frog.
- GRANT, MAJOR CHAPMAN, U. S. Army, Valparaiso, Ind.
12 Blanding Turtles, 7 Spotted Turtles, 5 Mud Turtles, 2 Painted Turtles.
Total, 26 specimens.
- GRIFFITH, MISS GERTRUDE, Brooklyn, N. Y.:
Wood Turtle.
- HALPIN, MR. M., Rye, N. Y.:
Small Alligator.
- HANNIGAN, MR. JAMES, Jersey City, N. J.:
Cayman niger (4 specimens).
- HANSEN, MR. R. S., Port Richmond, S. I.:
Sea Gull.
- HAVILAND, MISS M., Brooklyn, N. Y.:
Spotted Turtle.
- HELMEL, MR. FRANK, Hoboken, N. J.:
Wood Turtles (5 specimens).
- HERMES, MR. C. A., Yonkers, N. Y.:
Small Alligator.

- HOLLISTER, MISS GLORIA, New York City:
Histrio histrio.
- HORDES, MR. S., New York City:
1 pair Black *Mollienisia*.
- HUBBARD, MR. L. S., Brooklyn, N. Y.:
Painted Turtle.
- JAFFEE, MR. HOWARD, Brooklyn, N. Y.:
Small Alligator.
- KAFKA, MR. J. H., Queens, L. I.:
Alligators (2 specimens).
- KELLY, MR. J. L., New York City:
Small Alligator.
- KERN, MISS HELEN, New York City:
Box Tortoise.
- KNOWLES, MRS. H. C., New York City:
Painted Turtle.
- KRASA, MRS. CLARA, Irvington, N. J.:
Cumberland Turtles (4 specimens).
- KRAUSE, MR. F., New York, N. Y.:
Gold Platy (4 specimens).
- LANGMUS, MR. AUGUST, New York City:
Box Turtle.
- LANZ, MISS GLORIA, New York City:
Painted Turtle.
- LIVOTI, MR. PHILIP, Brooklyn, N. Y.:
Loggerhead Turtle.
- MAERKLIN, MISS HELEN, Bronx, N. Y.:
Turtle.
- MAINE DEVELOPMENT COMMISSION, Augusta, Maine:
9 Large Brook Trout, 6 Landlocked Salmon. Total, 15 specimens.
- MAKOWSKY, MISS DOROTHY, Brooklyn, N. Y.:
Small Geographic Turtle.
- MANZER, MR. C. W., New York City:
Small Alligator.
- MARIS, MR. J. B., Glen Ridge, N. J.:
6 Slippery Dick, 3 Young Squirrel Fish, 1 Pudding Wife. Total, 10 specimens.
- MARSCHIEDER, MRS., New York City:
Green Newts (175 specimens).
- MARSHALL, MRS. MYRA, Long Island City, N. Y.:
Box Tortoise.
- MEDOW, MISS A., Brooklyn, N. Y.:
Small Alligator.
- MENSCHING, MR. R., New York City:
Plecostomus commersoni.
- MENSING, R. J. K., SS *Santa Clara*, New York City:
8 *Goiboides*, 1 Shrimp. Total, 9 specimens. Also 60 frozen fishes and invertebrates.
- MESSNER, MR. FRED, Brooklyn, N. Y.:
Small Alligator.
- MILLER, MR. KENNETH, New York City:
Small Alligator.
- MILLER, MR. R., New York City:
Small Alligator.
- MORRIS, MR. ELKAN, Bronx, N. Y.:
1 pair *Stevardia albipinnis*.

- MORRIS, MISS SARAH L., New York City:
Pantodon buchholzi (2 specimens).
- NOYES, MR. CLINTON, New York City:
Green Turtles (2 specimens).
- O'CONNOR, MR. A. H., SS. *West Kebar*, New York City:
Malopterus electricus (10 specimens).
- OWENS, MR. ROBERT W., New York City:
Small Alligator.
- PARKINSON, MRS. R., New York City:
Large Yellow Slider.
- PEARSON, MR. DICK, Brooklyn, N. Y.:
Spiny Boxfish.
- PETTINATO, MR. JOSEPH, Astoria, L. I.:
Small Alligator.
- PILTZ, MR. FRED, Woodhaven, N. Y.:
Wood Turtle.
- PLOTNICK, MR. H., Brooklyn, N. Y.:
2 *Carnegiella marthia*, 1 *Cichlasoma urephthalmus*, 2 Gymnotids, 1 Loricariate,
1 pair Paradise fish. Total, 8 specimens.
- POLLAK, MR. SIDNEY, New York City:
Small Alligators (2 specimens).
- PORILITIS, MR. PETER E., Ridgewood, L. I.:
Small Alligator.
- PRICE, MR. DANIEL, Brooklyn, N. Y.:
Painted Turtles (3 specimens).
- QUATTROCHI, MRS. EFFIE, New York City:
Horned Toads (2 specimens).
- RAESECKE, MR. FRED, Brooklyn, N. Y.:
Box Tortoise.
- RAMIREZ, MR. ESTEBANK, New York City:
Box Tortoises (2 specimens).
- RODIONOFF, MR. DANIEL, New York City:
Small Alligator.
- RONALTER, MISS VERA, Brooklyn, N. Y.:
2 Small Alligators, 1 Turtle. Total, 3 specimens.
- RUTAN, MR. JOHN, Newark, N. J.:
Small Alligators (2 specimens).
- SANFORD, MISS ALEXANDRA R., New York City:
Small Alligator.
- SCHAEFER, MR. HOWARD, Richmond Hill, N. Y.:
Turtle.
- SCHNEIDER, MASTER SOL, Brooklyn, N. Y.:
Coral Snake.
- SCHOORTER, MISS BEATRICE, Brooklyn, N. Y.:
Turtle.
- SICHER, MRS. S. A., New York City:
Mollienisia latipinna.
- SIEGEL, MASTER ROBERT, Jackson Heights, L. I.:
Painted Turtle.
- SILK, MR. E. A., Brooklyn, N. Y.:
Lebistes reticulatus (4 specimens). Three of these Siamese Twins.
- SLAVIN, MR. LIONEL, New York City:
Painted Turtle.
- STEIN, MRS. LEO, East Orange, N. J.:
Small Alligator.

STERNKE, MR. WILLIAM A., Opa Locka, Fla.:

Cichlids from Yucatan (6 species).

STIHSEL, MASTER JOSEPH, New York City:

Musk Turtle.

STITCH, MR. JULEO, New York City:

Small Alligator.

STOYE, MR. F. H., New York City:

2 *Mugil cephalus*, 1 *Mugil curema*. Total, 3 specimens.

SWAN, MR. HARRY, Long Island City, N. Y.:

Crenicichla lepidota.

TAYLOR, MASTER ROBERT, Glen Park, N. J.:

Small Alligator.

TEPLA, MR. GEO., Bronx, N. Y.:

Small Alligator.

TRILQUET, MASTER ELLSWORTH, Richmond Hill, N. Y.:

Tortoise.

VANDER VEER, MR. F. E., Brooklyn, N. Y.:

Turtles (2 specimens).

VIDA, MR. A. M., MV *City of New York*, New York City:

60 Glassfish, 40 Five-fingers, 17 *Anabas*, 5 African Ribbonfish, 5 Young Groupers, 3 Mudspringers, 3 Rockspurs, 2 Greenfish, 1 Lungfish, 1 Electric Ray. Total, 137 specimens.

WELLINS AND WELLINS, New York City:

2 *Corydoras paleatus*, 1 *Pimodella*, 1 *Otocinclus*, 1 *Platypoecilus*. Total, 5 specimens.

WISE, MR. MILTON, New York City:

Painted Turtle.

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The New York Zoological Society

January 1, 1935

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 WEISS, MRS. CHARLES,
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 WELCH, LEWIS S.,
 WELLDON, SAMUEL A.,
 WELLS, MRS. EDWARD H.,
 WENTZ, THEODORE,
 *WESTOVER, M. F.,
 WHELOCK, WILLIAM H.,
 WHEELWRIGHT, DR. JOSEPH S.,
 WHITE, MISS CAROLINE,
 WHITE, HAROLD T.,
 WHITE, MISS MARTHA R.,
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 WHITNEY, MRS. GEORGE,
 WHITNEY, MRS. HOWARD F.,
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 WHITTEMORE, GEORGE W.,
 WHITTEMORE, HOWARD,
 WICKERSHAM, CORNELIUS W.,
 WILCOX, T. F.,

WILE, EDWIN,
 WILKINS, F. H.,
 WILLETS, J. MACY,
 WILLIAMS, ERNEST,
 WILLIAMS, MRS. PERCY H.,
 WILLIAMS, RALPH J.,
 WILLIAMS, WALTER J.,
 WILLIAMSON, CLIFTON P.,
 *WILLIS, W. P.,
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 WILSON, R. THORNTON,
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 WING, S. BRYCE,
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 WINTER, EZRA,
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WOOD, ARNOLD,
 WOOD, MRS. TURNBULL,
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 WOOLSEY, GEORGE M.,
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 *YORKE, GEORGE M.,
 YOUNG, MRS. A. MURRAY,
 YOUNG, ROLAND KEITH,
 ZABRISKIE, MISS ETHEL,
 ZABRISKIE, GEORGE A.,
 *ZENO, NORMAN L.,
 ZIMMERMAN, A. G.,
 ZINSSER, AUGUST,
 ZINSSER, WILLIAM H.,

ZIFF, KARL,

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 BAKER, MRS. GEORGE F.,
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 COOGAN, MRS. JAY,
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 WHITNEY, MRS. GEORGE,
 WHITON, MRS. HENRY D.,

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 ADAMS, BILLY,
 ADAMS, HUGH WHITE,
 ADAMS, JANET SHEARSON,
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 ADAMS, ROBERT J.,
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BAKEWELL, THOMAS,
 BARKER, GEORGE,
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 BEATTIE, CHARLES,
 BEATTIE, ERNEST FAHNESTOCK,
 BENJAMIN, ANNE,
 BENJAMIN, HAMILTON,
 BENJAMIN, HENRY ROGERS, JR.,
 BENJAMIN, MARY,
 BENJAMIN, SAMUEL,
 BENJAMIN, SARAH,

* Deceased

BENJAMIN, TOWNSEND,
BENJAMIN, WILLIAM,
BIRD, BARBARA,
BIRD, MARY SINGLETON,
BIRD, OLIVIA SINGLETON,
BISSELL, TALLMAN,
BOARDMAN, BRADFORD,
BOARDMAN, CHRISTINA,
BOARDMAN, CLARINDA,
BOARDMAN, LANSDALE,
BONNER, HENRY S.,
BONNER, JOHN TYLER,
BONNER, PAUL H., JR.,
BURKE, STANLEY, JR.,
BURKE, WARING,
BUSK, JOSEPH R., JR.,
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CARLISLE, CATHARINE,
CARLISLE, FLOYD,
CARLISLE, JOHN,
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CHALLINOR, JOHN W.,
CHALLINOR, JUDITH,
CHALLINOR, PATRICIA,
CHALLINOR, PETER S.,
CHALLINOR, SUSAN,
CHASE, CHARLES A.,
CHURCH, CHARLES,
CHURCH, NANCY,
DARLINGTON, HENRY,
DARLINGTON, JANE,
DARLINGTON, PETER,
DAVISSON, JOAN,
DAVISSON, RICHARD I., JR.,
DAVISSON, WILLIAM PORTER,
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DEGENER, LOIS ANN,
DEGENER, PAUL,
DELAFIELD, MARGARET W.,
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DICK, SYLVIA,
DICKERMAN, WILLIAM C.,
DICKY, CHARLES D., JR.,
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DICKY, S. WHITNEY,
DOWD, ANDREA,
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DURAND, JOAN S.,
DURAND, MILDRED H.,
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HERRICK, SCOTT,
HERRICK, SUE,
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LEE, LOUISE,
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MCGUSTY, HENRIETTA,
MCGUSTY, JAMES,
MCGUSTY, KATHLEEN,
MCGUSTY, MARY,
MCGUSTY, ROBERT T., JR.,
MCILVAINE, ARCHIBALD G., JR.,
MCILVAINE, JOHN CURTIS,

MALI, CAROL,
 MALI, CLAIRE,
 MALI, LAURA,
 MALI, PIERRE,
 MARSH, ISABEL,
 MARSH, JUDITH,
 MARTIN, ANNE,
 MARTIN, NANCY,
 MARVIN, DIANA,
 MARVIN, LANGDON,
 MICHALIS, CLARENCE FAHNESTOCK,
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 MICHALIS, MARTHA MARGARET,
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 MILLER, LEDLIE S.,
 MILLER, MARGARET E.,
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 MOFFAT, KEITH,
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 MORRILL, SHELDON,
 MORRIS, BETTY,
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 MYRICK, CYNTHIA,
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 NAMM, NANCY H.,
 NOYES, DAVID,
 NOYES, FRANCES,
 NOYES, JEAN,
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 O'CONNOR, ELIZABETH HOPKINSON,
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 PATTERSON, JOHN C.,
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 PELL, GLADYS S.,
 PELL, MARY DUANE,
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 PERRY, NANCY LEWIS,
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 PHILLIPS, LAWRENCE,
 PHILLIPS, MARION,
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 PLACE, BASSETT,
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 POST, JULESTER LENA,
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 PRATT, CHARLES,
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 RICHARD, VERA,
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 RILEY, MARY E. ALSOP,
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 RIPLEY, HENRY B. H., JR.,
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STARK, GORDON,
 STARK, JAMES,
 STARK, JEAN,
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 WHITMARSH, THEODORE F., 2ND,
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 WHITNEY, ROBERT B.,
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 WHITRIDGE, JANE,
 WHITRIDGE, RHODA,
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 MCGREGOR, PROF. J. H.,
 MAC CALLUM, DR. GEORGE A.,
 MANN, DR. WM. M.,
 *MATTHEW, DR. W. D.,
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 MINEB, DR. ROY W.,
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 MURPHY, DR. ROBERT CUSHMAN,
 NICHOLS, DR. J. T.,
 NOBACK, DR. CHARLES V.,
 NOBLE, DR. GEORGE K.,
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* Deceased

† The qualifications for this class rest solely upon scientific achievement.

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 SCHULTE, PROF. H. VON W.,
 SCOTT, DR. GEORGE G.,
 SETH-SMITH, DAVID,
 SETON, ERNEST THOMPSON,

YERKES, DR. ROBERT M.,

*SHELDON, CHARLES,
 SHERWOOD, DR. GEORGE H.,
 SMITH, DR. HOMER,
 STOCKARD, DR. CHARLES R.,
 STUNKARD, PROF. HORACE W.,
 TEE-VAN, JOHN,
 THAYER, GERALD B.,
 TILNEY, DR. FREDERICK C.,
 TOWNSEND, DR. CHARLES H.,
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 *W. H. DUDLEY LE SOUEF,
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 LT. COL. HUGH ROSS, D.S.O.,
 MAJOR C. G. STURTEVANT,
 DR. H. M. WEGEFORTH,
 DR. W. REGINALD WHEELER,
 G. TYRWHITT-DRAKE,

* Deceased

Summary of Membership

Benefactors	3
Founders in Perpetuity	9
Founders	11
Associate Founders	14
Patrons	36
Life Members	360
Annual Members	1,269
Honorary Members	6
<i>(Total)</i>	<hr/> 1,708
Ladies' Auxiliary	31
Junior Auxiliary	285
Honorary Life	15
Fellows	62
Corresponding Members	19
Sustaining Members	6

CHARTER
OF THE
New York Zoological Society

CHAPTER 435, LAWS OF 1895.

AN ACT to incorporate the New York Zoological Society and to provide for the establishment of a zoological garden in the city of New York.

As amended by Chapter 146 of the Laws of 1902; by Chapter 240 of the Laws of 1910; and by Chapter 19 of the Laws of 1930.

See Chapter 432 of the Laws of 1900.

See Charter of the city of New York, Section 626 of the Laws of 1901.

The People of the State of New York, represented in Senate and Assembly, do enact as follows:

SECTION 1. Charles A. Dana, Oswald Ottendorfer, Andrew H. Green, William H. Webb, Henry H. Cook, Samuel D. Babcock, Charles R. Miller, George G. Haven, J. Hampden Robb, Frederick W. DeVoe, J. Seaver Page, Rush C. Hawkins, David James King, Wager Swayne, Charles A. Peabody, Jr., Charles E. Whitehead, Charles R. Flint, Samuel Parsons, Jr., Mornay Williams, Henry E. Gregory, Isaac W. Maclay, Isaac Rosenwald, Hugh N. Camp, Andrew D. Parker, Cornelius Van Cott, William F. Havemeyer, Frederick Shonnard, William W. Thompson, Alexander Hadden, Edward L. Owen, John H. Starin, Rush S. Huidekoper, William W. Goodrich, Albert H. Gallatin, Frederick S. Church, Edward C. Spitzka, Robert L. Niles, Madison Grant, C. Grant La Farge, William Van Valkenburg, and such other persons as may, under the provisions of its by-laws become members of the corporation hereby created, are hereby created a body corporate and politic, by and under the name of New York Zoological Society.

SEC. 2. Said corporation shall have power to establish, maintain and control zoological parks, gardens, or other collections for the promotion of zoology and kindred subjects, and for the instruction and recreation of the people. Said corporation may collect, hold, and expend funds for zoological research and publication, for the protection of wild animal life, and for kindred purposes, and may promote, form, and co-operate with other associations with similar purposes, and may purchase, sell, or exchange animals, plants, and specimens appropriate to the objects for which it was created.

SEC. 3. The trustees of said corporation shall have power to make and adopt by-laws for the management and government of its affairs and business, for the admission, suspension, and expulsion of its members, and for the terms and conditions of membership; to prescribe the number and mode of election of its officers; to define their duties; to provide for the safe-keeping of its property, and from time to time to alter and modify its By-Laws.

SEC. 4. The affairs and business of said corporation shall be managed and controlled by a board of trustees, the number of whom shall be prescribed by the by-laws. The first board of trustees shall be divided by lot into three classes, equal in number, one of which classes shall hold office for one year, another for two years, and the other for three years; and all persons elected to be trustees at any subsequent election shall hold office for three years, and until others are elected in their stead. There shall be a president, two vice-presidents, treasurer and secretary, to be elected by the board of trustees annually, who shall hold office until others are elected in their stead. The first meeting under this act may be held at any time upon a notice of five days, signed by any five of the incorporators named in the first section of this

act, fixing a time and place for such meeting, a copy whereof shall be mailed to each of said incorporators at his usual post-office address, and twelve of such incorporators shall be a quorum for the purpose of organization, adoption of by-laws, and election of officers. No trustee of said corporation shall be interested, directly or indirectly, in any contract concerning its property or affairs.

SEC. 5. Said corporation may raise money by the issue of bonds, secured by a mortgage on any or all of its property not acquired from said city or state.

SEC. 6. Said corporation may take, purchase, and hold real and personal estate necessary for the purpose of its incorporation, and shall possess the general powers and be subject to the restrictions and liabilities prescribed in Article II of Chapter 23 of the Consolidated Laws, entitled "General Corporation Law," being chapter 28 of the Laws of 1909.

SEC. 7. The commissioners of the sinking fund of the said city are authorized in their discretion to allot, set apart, and appropriate for the use of said corporation, any of the lands belonging to said city north of One Hundred and Fifty-fifth Street, but not in the Central Park, and such appropriation may be revoked if, after the expiration of five years from the passage of the act, a zoological garden is not established thereon; said grounds thus set apart and appropriated shall be used for no purpose whatsoever except those aforesaid. As soon as any lands are set apart the Mayor of the said city of New York and the President of the Department of Parks of said city, shall become and be *ex-officio* members of the board of trustees of said corporation. If at any time the animals now composing the menagerie of Central Park shall be removed therefrom by the authorities having charge thereof, said authorities may make an arrangement with the incorporators named in this act or the corporation formed by them for leasing or sale of such animals to such incorporators or corporation, and said incorporators or corporation shall have a preference over any other person or corporation in respect thereto upon the same terms which said authorities could make with any such other person or corporation, or upon such other terms as to such authorities may seem proper, but nothing herein provided shall be construed as giving the commissioners of the Department of Public Parks authority to sell, lease, transfer, or in any other wise dispose of said animals or other property connected with or belonging to said menagerie.

SEC. 8. Admission to the said gardens shall be free to the public for at least four days, one of which shall be Sunday, in each week, subject to such rules and regulations as shall be prescribed by said corporation.

SEC. 9. This act shall take effect immediately.

AN ACT to amend chapter four hundred and thirty-five of the laws of eighteen hundred and ninety-five, entitled "An act to incorporate the New York Zoological Society and to provide for the establishment of a zoological garden in the City of New York" in relation to real and other property.

Became a law May 26, 1917, with the approval of the Governor. Passed, three-fifths being present.

ACCEPTED BY THE CITY.

The People of the State of New York, represented in Senate and Assembly, do enact as follows:

SECTION 1. Chapter four hundred and thirty-five of the laws of eighteen hundred and ninety-five, entitled "An act to incorporate the New York Zoological Society and to provide for the establishment of a zoological garden in the City of New York," as amended by chapter two hundred and forty of the laws of nineteen hundred and ten, is hereby further amended by adding thereto a new section to read as follows:

7-a. The board of estimate and apportionment in the City of New York may, in its discretion, set apart and appropriate upon such conditions as it may deem expedient for the extension and development of the work and objects of the said New York Zoological Society, the whole or any part of that portion of Bronx Park in the City of New York, lying to the south of Pelham avenue and Pelham parkway, for the use of the said New York Zoological Society, the said lands so to be appropriated to be described particularly in the order of the board of estimate and apportionment hereby authorized. The said board of estimate and apportionment may also, in its discretion at the time of setting apart and appropriating said lands or any part thereof to the New York Zoological Society, and annually thereafter, in addition to any sum or sums which it may have appropriated for the support and maintenance of the New York Zoological Park, appropriate to the use of said society, such sum or sums in its discretion for the care and maintenance of the additional lands that may be allotted to the said society under the authority hereby conferred, as it may deem best.

2. This act shall take effect immediately.

New York Zoological Society

AND THE

New York Aquarium

CHAPTER 441, LAWS OF 1902.

AN ACT to authorize a further appropriation to the New York Zoological Society for the support of the New York Aquarium.

As amended by Chapter 239 of the Laws of 1910.

The People of the State of New York, represented in Senate and Assembly, do enact as follows:

Chapter four hundred and forty-one of the laws of nineteen hundred and two, entitled "An Act to authorize a further appropriation to the New York Zoological Society for the support of the New York Aquarium," is hereby amended to read as follows:

SECTION 1. The Board of Estimate and Apportionment of the City of New York may annually, in its discretion include in the budget for the then next ensuing financial year, in addition to any sum or sums which may be appropriated for the adequate support and maintenance of the New York Zoological Park or gardens, situated in the borough of the Bronx, and administered and controlled by the New York Zoological Society, a further sum or sums, in its discretion for the use of the said New York Zoological Society, provided, however, that the additional appropriation hereby authorized shall be made only in case an agreement is entered into between the said New York Zoological Society and the City of New York, acting by its Board of Estimate and Apportionment for the adequate keeping, maintenance, extension, preservation and exhibition of the building and approaches thereto and collection of aquatic animals and plants contained therein, known as the New York Aquarium, situated in the Battery Park in the Borough of Manhattan in said city, and also for furnishing opportunities for study, research and publication in connection with said collections, which contract the said Board of Estimate and Apportionment is hereby expressly authorized, in its discretion, to make upon such terms and conditions as may be agreed upon with the said New York Zoological Society, and which contract shall also provide how the duty of the commissioner of parks for the borough of Manhattan and Richmond in respect to maintaining the said aquarium now imposed upon him by law shall be performed.

Sec. 2. This act shall take effect immediately.

GRANT OF SOUTH BRONX PARK
TO THE
New York Zoological Society

At a special meeting of the Commissioners of the Sinking Fund, City of New York, held on March 24, 1897, a resolution was passed allotting South Bronx Park for the use of the New York Zoological Society upon conditions entirely satisfactory to the Society.

The full text of the resolution is as follows:

WHEREAS, by chapter 435 of the Laws of 1895, entitled "An act to incorporate the New York Zoological Society and to provide for the establishment of a Zoological Garden in the City of New York," it is provided that the Commissioners of the Sinking Fund of the City of New York are authorized in their discretion to allot, set apart and appropriate, for the use of said corporation, any of the lands belonging to said city north of 155th Street, but not in Central Park,

RESOLVED, that the said Commissioners of the Sinking Fund do hereby allot, set apart and appropriate for the use of said corporation, a tract of land in the southern portion of Bronx Park, embracing an area of about 261 acres, and consisting of so much of said park as lies south of Pelham Avenue, upon the following terms and conditions, to wit:

First. That said grounds thus set apart and appropriated, shall be used for no other purpose whatsoever except for the sole purposes of said Zoological Garden as the same are specified in the act aforesaid, and that said appropriation of said lands hereby made shall be revoked if, after the expiration of three years from the date of the commencement of the work by the Park Department for the necessary improvement of the grounds as referred to and described in the sixth paragraph of this Resolution, a Zoological Garden is not established upon said tract of land.

Second. That the original equipment of buildings and animals for said Zoological Garden shall be paid for from funds contributed by the New York Zoological Society, and that said Society shall, before it enters into occupation of the allotted land and within one year from the date of this Resolution, raise one hundred thousand dollars by subscription, and within three years from the date of the commencement of the work by the Park Department for the necessary improvement of the grounds as referred to and described in the sixth paragraph of this Resolution, the further sum of at least one hundred and fifty thousand dollars. If the said Society shall fail or neglect to raise said funds within the periods respectively fixed therefor, it shall, on demand of the Commissioners of the Sinking Fund, surrender to the City of New York the land allotted to it as a site for said Garden, and all improvements made thereon. The said Society shall not mortgage its buildings or animals, or any of its property within said Garden, which is directly or indirectly maintained by the City of New York.

Third. The said Zoological Society shall have the power to establish an endowment fund from the donations and bequests, which fund shall be used solely, unless otherwise specified by the donors thereof, for the general uses and purposes of said Society. The funds of said Society, other than the sums contributed to said endowment fund, shall be expended upon buildings and

other enclosures for animals, for the collections of animals, and for the general purposes of the Society. Among the funds thus to be expended shall be the subscriptions of members, life members and patrons, and all cash donations to said Society, other than those made for the purposes of the endowment fund, and all moneys derived from the sale of animals; and the net proceeds of the privileges that may be developed in said Garden, such as refreshments, boating, riding animals, the sale of photographs, etc., shall be used for, and expended in the increase of the collections; and payments from the funds of such Society, including the endowment fund, shall be made directly from the treasury of the Society.

Fourth. The library, pictures, maps, office furniture, and other movable property purchased and owned by the Society shall remain the property of the Society, and excepting living animals, may be removable at will, and every piece of such property shall bear a distinguishing mark. But no buildings, aviaries or cages may be sold or removed by said Society without the written consent of the Board of Parks. All property paid for from the maintenance fund, hereinafter referred to, shall belong to the City.

Fifth. So long as the said Society is entrusted with the control and management of the said Zoological Garden, and the city provides for the proper maintenance and care of the animals and collections therein, the said Society shall not remove any of its animals or collections for exhibition elsewhere without the consent of the Board of Parks, but if the City shall ever cease to provide for the proper maintenance and care of the said animals and collections, the said Zoological Society shall have the right, upon giving three months' notice in writing to the Board of Parks, to remove the said animals and collections owned by it. The said Society shall have the right to improve its collections by the exchange of animals, and also by the sale of animals not needed for exhibition; but all moneys derived from such sale or exchange of animals shall be used only for the purpose of increasing said collections.

Sixth. The City of New York shall annually provide the necessary funds for the maintenance and care of the Zoological Garden, its buildings, inclosures and other improvements made from time to time therein, and the animals and collections of said Society; but the appropriation for the first year is not to exceed Sixty thousand dollars (\$60,000). It shall be the duty of the City to provide from such sums or appropriations, as may be applicable thereto, the cost of the necessary improvement of the ground prior to the erection of buildings and inclosures, including such roads, walks, fences, grading, water supply, drainage and heating as may be or become necessary for the proper development of said Zoological Garden, all of which work of preparation and construction shall be performed in conformity with the plans therefor to be agreed upon between the Park Department and the Zoological Society. The said City shall also furnish the necessary supply of water, and adequate police patrol and protection, and the salaries of all persons employed directly in the service and development of the Zoological Garden shall be paid from the maintenance fund, and from such other funds as may be available for and applicable to the purpose. Payments from the maintenance fund shall be made upon vouchers filed with the Comptroller and drawn in such form as he may direct; and said Society shall annually render the year then past, made on account of the said Zoological Garden, all revenues and resources thereof, a statement of the number of the members of said Society, of the donations received and of the number of animals in the Garden, the chief items of improvement made during the year, and all other information that the said Mayor may require.

Seventh. The Park Department shall at all times have access to the grounds, buildings and other inclosures of the said Zoological Society for general police visitation and supervision, and for all other lawful purposes.

Prior to the commencement of any work on said Garden the general plan therefor shall be submitted to and approved by the Park Board, and all subsequent plans for buildings, roadways and paths shall also be so submitted and approved. No living tree shall be cut down or removed, except by the express authority of said Park Department, but the said Zoological Society shall have the right to remove dead trees and such bushes as it may be necessary to remove in the preparation of inclosures for animals, or in making other improvements. The said Department of Parks shall plant such and so many shade trees, aquatic plants, shrubs and flowers as may be necessary to enhance and secure the seclusion, beauty and usefulness of the park, and shall do and perform all the work of gardening necessary to carry out the general plan of improvement and the subsequent plans as may be agreed upon between the said Zoological Society and the said Department of Parks.

Eighth. The said Zoological Garden and its collection shall be free to the public without the payment of any admission fee or gratuity whatsoever for not less than seven hours a day on at least five days of the week, one of which shall be Sunday, and also on all legal holidays and half holidays, subject to such reasonable regulations as may be made by said Society, but the said Society may close the area devoted to the collections of animals on not more than two days in each week, and on such days may charge an admission fee which shall be fixed by said Society, and all moneys derived from such admission fees shall be expended by said Society in the increase of the collections or in the improvement of said Garden or its buildings; but the portion of the grounds situated east of Boston Road, and all the Bronx River below the Boston Road bridge shall be open to the public at all times as pleasure grounds, subject to such reasonable regulations as may be adopted by said Society with the approval of the Park Department, and the occupancy of that portion of the park by herds of animals or by collections, shall be subject to the consent of the Park Department.

Ninth. The said Zoological Society shall have the right and power to appoint, direct, control and remove all persons and officers employed by them in and about the Zoological Gardens, and to fix the salaries of such persons and officers and to make promotions, but all regular employees shall be chosen, and their salaries fixed and promotions made, by reason of special fitness and ability.

Tenth. Subject to the conditions hereinbefore contained, the said Zoological Society shall exercise entire control and management over all the affairs of the said Zoological Garden.

BY-LAWS
OF THE
New York Zoological Society

AS AMENDED MAY 21, 1925, DECEMBER 27,
1929, MAY 22, 1930, AND DECEMBER 26, 1931.

ARTICLE I.

MEETINGS OF THE SOCIETY

SECTION 1. The office and place of business of the New York Zoological Society shall be in the City of New York, unless otherwise ordered.

SEC. 2. The Society shall hold its annual meeting for the election of Trustees, and other business, on the second Tuesday of January, or such day thereafter during the month of January to which said annual meeting shall adjourn.

SEC. 3. Special meetings of the Society shall be called by the Secretary, upon the request of the President or the Chairman of the Executive Committee, or at the written request of ten members.

SEC. 4. Notices of all meetings shall be mailed to each member of the Society at least three days before such meeting.

SEC. 5. At meetings of the Society twenty members shall constitute a quorum.

SEC. 6. The order of business shall be as follows:

1. Roll Call.
2. Reading of minutes not previously read.
3. Report of Executive Committee.
4. Report of Secretary.
5. Report of Treasurer.
6. Report of the Director of the Zoological Park.
7. Report of Director of the Aquarium.
8. Election of Trustees.
9. Communications.
10. Miscellaneous business.
11. Reports and resolutions.

ARTICLE II.

BOARD OF TRUSTEES

SEC. 1. The Board of Trustees shall consist of thirty-six members, together with the Mayor of New York and President of the Park Board, or Commissioner for the Bronx, who shall be members *ex-officio* of the Board.

SEC. 2. Twelve Trustees shall constitute a quorum; but seven Trustees may transact current business, and adjourn, subject to the subsequent approval of a meeting at which a quorum shall be present.

SEC. 3. The Board of Trustees shall hold an annual meeting on the twenty-eighth day of December in each year, unless said date shall fall upon a Saturday or Sunday, in which event the annual meeting shall be held on the following week day. The hour and place shall be fixed by the Chairman of the Board. If a quorum is lacking those present may adjourn the meeting and fix the

time and place thereof. Regular meetings of the Board may also be called by the Secretary on the third Tuesdays of October and April upon the request of the President or Chairman of the Executive Committee. Special meetings of the Board shall be called at any time by the Secretary upon the request of the President or Chairman of the Executive Committee, or at the written request of five Trustees.

SEC. 4. Notices of meetings of the board shall be mailed to each Trustee at least three days before such meetings.

SEC. 5. The successors to the outgoing class of Trustees shall be elected by the Society at its annual meeting, but vacancies in the Board may be filled for the unexpired term by the Board of Trustees, or by the Executive Committee.

SEC. 6. A Nominating Committee shall be annually appointed by the Executive Committee, and shall consist of three members of the Society at large, who shall nominate and post ten days before the annual election the names of twelve persons to succeed the outgoing class of Trustees in a conspicuous place in the office of the Society.

SEC. 7. No person shall be eligible for election to the Board of Trustees except to fill vacancies, unless his name shall have been posted as a candidate by such committee, or by not less than ten members, in writing, in a conspicuous place in the office of the Society ten days before the annual election. All candidates for election as Trustees must be Life Members, Patrons, Associate Founders, or Founders of the Society.

SEC. 8. Any Trustee who shall fail to attend three consecutive meetings of the Board, unless excused by a vote of the Board, shall cease to be a Trustee.

SEC. 9. The Board of Trustees shall at its annual meeting elect a President, two Vice-Presidents, a Secretary, and Treasurer, who shall hold office for one year, or until their successors are elected. The President, Vice-Presidents, and Treasurer shall be members of the Board.

SEC. 10. The Director of the Zoological Park, the Director of the Aquarium, and all other persons employed by the Society, shall be appointed by the Board or by the Executive Committee, and shall hold office during the pleasure of the Board.

SEC. 11. The Board shall, at its annual meeting, elect an Executive Committee, Finance Committee and Auditing Committee, which shall hold office for one year, or until their successors are elected. The Board of Trustees and the Executive Committee shall also have authority to appoint such other Committees or officers as they may at any time deem advisable and to delegate to them such powers as may be necessary.

SEC. 12. The order of business of the meetings of the Board shall be as follows:

1. Roll Call.
2. Reading of minutes not previously read.
3. Report of Executive Committee.
4. Report of Secretary.
5. Report of Treasurer.
6. Report of Auditing Committee.
7. Report of Director of Zoological Park.
8. Report of the Director of the Aquarium.
9. Election of Officers
10. Election of Committees.
11. Election of new members.
12. Communications.
13. Miscellaneous business.

SEC. 13. All reports and resolutions shall be in writing, and the ayes and nays may be called on any resolution at the request of one Trustee.

SEC. 14. Whenever the funds of the Society shall permit, the Board of Trustees or the Executive Committee may award medals or other prizes for meritorious work connected with the objects of the Society.

ARTICLE III.

OFFICERS

SEC. 1. The officers of the Society shall consist of a President, two Vice-Presidents, a Treasurer, a Secretary, and a Director of the Zoological Park. These officers, with the exception of the Director, shall be elected at the annual meeting of the Board of Trustees, but any vacancy may be filled for an unexpired term by the Board of Trustees, or by the Executive Committee, until the next annual election.

SEC. 2. The President shall preside at all meetings of the Board and of the Society, and shall be *ex-officio* a member of the Executive and Auditing Committees.

SEC. 3. The Vice-Presidents shall, in the absence of the President, perform his duties and possess his powers, acting in the order of their election.

SEC. 4. The Treasurer shall receive, collect and hold, subject to the order of the Board of Trustees, or the Executive Committee, all dues, subscriptions, warrants from the City, fees and securities. He shall pay all bills as ordered by the Board of Trustees or the Executive Committee, and shall report to the Society at its annual meeting, and to the Board of Trustees at all regular meetings, and to the Executive Committee at each meeting. He shall keep all moneys and securities in some bank or trust company to be approved by the Board of Trustees or Executive Committee. The books of the Society shall at all times be open to the inspection of the Trustees.

SEC. 5. The Secretary, unless relieved by the Board or Executive Committee, shall attend all meetings of the Society, of the Board and of the Standing Committees. He shall keep a careful record of all proceedings, shall have the custody of the seal, archives and books, other than books of account, and shall conduct the correspondence of the Society. He shall issue all notices and tickets, and shall perform such other duties as the Board may direct. He shall be a member *ex-officio* of the Executive, Aquarium, and Auditing Committees, and of the Scientific Council.

SEC. 6. The Director of the Zoological Park shall be elected annually by the Executive Committee at a salary to be determined by said Committee, and shall hold office until removed or his successor chosen by said Committee. He shall be the responsible administrative officer of the Park, and shall recommend to the Executive Committee candidates for the various positions in the Park. He shall also perform all such other duties in connection with the business, scientific, and literary administration of the Society as may be assigned to him by the Executive Committee.

SEC. 7. The Director of the Aquarium shall be elected annually by the Executive Committee, and shall hold office until removed or his successor is chosen by said Committee. He shall be the responsible administrative officer of the Aquarium, and shall recommend to the Executive Committee all candidates for positions in the Aquarium. The director of the Aquarium shall be *ex-officio* a member and Chairman of the Aquarium Committee. He shall perform such other duties in connection with the Aquarium as may be assigned to him by the Executive Committee.

ARTICLE IV.

COMMITTEES

SEC. 1. There shall be three standing committees, the Executive Committee, the Finance Committee and the Auditing Committee, which shall hold office for one year or until their successors are elected.

SEC. 2. The Executive Committee shall consist of eight Trustees, together with the President, Secretary and Treasurer of the Society *ex-officio*. Four members including the Chairman shall constitute a quorum, and all meetings shall be called by the Chairman. The Executive Committee shall fill all vacancies in its own number and shall have the full power of the Board of Trustees, except so far as such delegation of power may be contrary to law.

SEC. 3. The Executive Committee shall have the control and regulation of the collections, library and all other property of the Society, and shall have the power to purchase, sell and exchange specimens and books.

The Executive Committee shall also have power to employ and control all officials and employees of the Society, Park and Aquarium, to authorize the payment of a salary to the Chairman of the Executive Committee, the Secretary and other officials in its discretion, to fix the amount of all salaries, and generally to carry out in detail the directions of the Board of Trustees and the terms of any contract between the City, or Park Board, and the Society.

SEC. 4. All the rules and regulations for the examination of applicants for the various positions in the Park and Aquarium shall be made or approved by the Executive Committee.

SEC. 5. The Executive Committee may regulate the auditing and payment for all current accounts.

SEC. 6. The Executive Committee shall annually appoint an Aquarium Committee, whose duties and powers are set forth in Section 11 of Article IV of these By-Laws.

SEC. 7. The Executive Committee shall annually appoint a Nominating Committee, whose duties and powers are set forth in Sections 6 and 7, Article II, of these By-Laws.

SEC. 8. It shall also appoint a Scientific Council, whose powers and duties are set forth in Section 2 of Article V of these By-Laws.

SEC. 9. The Executive Committee shall make a written report at each regular meeting of the Board of Trustees.

SEC. 10. The Auditing Committee shall consist of three regular members of the Society, in addition to the President and Secretary, members *ex-officio*, and vacancies shall be filled by the Executive Committee. It shall be the duty of the Auditing Committee to audit, annually, the accounts of the Treasurer, of the Director of the Zoological Park, and of the Director of the Aquarium, and any other accounts of the Society, and to report to the Board of Trustees at its annual meeting.

SEC. 11. The Executive Committee shall annually appoint an Aquarium Committee, not to exceed eight members of the Society, who shall hold office until their successors are chosen. All vacancies shall be filled by the Executive Committee. The Director of the Aquarium shall be *ex-officio* a member and the Chairman of the Aquarium Committee, and such Committee may vest in him any or all of its powers. The Chairman of the Executive Committee and the Secretary of the Society shall also be *ex-officio* members of the Aquarium Committee. Three members shall constitute a quorum. The Executive Committee may delegate to the Aquarium Committee such powers as it may deem proper.

SEC. 12. The Finance Committee shall consist of three or more Trustees with the Treasurer of the Society *ex-officio* who shall act as Chairman. The Finance Committee shall have authority in its discretion to sell bonds, stocks, and other securities belonging to the Society and to invest and reinvest the proceeds, together with any other funds of the Society available for investment, in such securities as it may deem wise and shall advise the Board of Trustees as to changes that it deems advisable in securities already owned by the Society. Notwithstanding the power hereby conferred the Executive Committee may at any time direct the sale of any securities held by the Society or direct the Treasurer to invest available funds of the Society in such securities as it may select. The Finance Committee shall report from time to time to the Executive Committee all securities purchased or sold. The report of the Treasurer as to the investment of the funds of the Society shall be sufficient authority to the Chairman of the Executive Committee for approving drafts upon the bank account of the Society to pay for the same.

All bonds, stocks, and other securities shall be deposited for safe-keeping in a Trust Company approved by the Executive Committee to be held for the account of the Society and subject to the joint written order of the President and the Treasurer or of any other two officers authorized by the Executive Committee. All transfers and assignments of the securities registered or standing in the name of the Society shall be executed under its seal by the President or Vice-President together with the Secretary or Treasurer of the Society.

ARTICLE V.

SCIENTIFIC COUNCIL

SEC. 1. The Executive Committee shall annually appoint a Scientific Council of not more than ten members, and shall fill all vacancies. Members of the Council shall hold office until their successors are appointed.

SEC. 2. The duties of the Council shall be to act as an advisory board in all matters pertaining to the scientific administration of the Society, and especially as to the scientific features of the Park, the promotion of zoology by publications and otherwise, and the preservation of the native fauna of America.

SEC. 3. Four members, including the Chairman, shall constitute a quorum. The Chairman shall be elected annually by the Council. The Chairman of the Executive Committee and the Secretary of the Society shall be members *ex-officio* of the Council.

ARTICLE VI.

MEMBERS

SEC. 1. The present members and such others as shall become associated with them, under the conditions prescribed by the By-Laws, shall be members of this Society as long as they shall comply with the By-Laws.

SEC. 2. Members failing to comply with these By-Laws, or for other good and sufficient cause, may be expelled from the Society by the Executive Committee.

SEC. 3. Candidates for membership shall be proposed and seconded by members of the Society. The name, occupation, and place of residence of every member as proposed shall be submitted for election to the Board of Trustees or the Executive Committee, and such person, when elected, shall become a member upon payment of the annual dues, or of the fees as prescribed below.

SEC. 4. There shall be a class known as Fellows, which shall consist of members of the Society who have rendered marked services to science, and shall be chosen by the Executive Committee. The privileges of Fellows shall

be in all respects the same as those of regular members of the Society, but they shall be exempt from the payment of annual dues.

SEC. 5. The annual dues shall be ten dollars, payable in advance, on the first day of May of each year, but the Executive Committee may remit the dues for the current year in the case of members elected between January 1st and May 1st of each year. The classes of membership shall be as follows:

SEC. 6. The payment of \$200 at one time shall constitute any member a Life Member.

A member who has paid annual dues for a period of five years may thereafter, at any time, upon the payment of the difference between the amount of dues already paid and \$200, become a Life Member, but such payment shall be not less than \$100.

SEC. 7. The payment of \$1,000 at one time, or in the case of a Life Member, of \$800, shall constitute any member a Patron.

SEC. 8. The payment of \$2,500 at one time, or in the case of a Patron of \$1,500, or of a Life Member of \$2,300, shall constitute any member an Associate Founder.

SEC. 9. Any member who shall donate to the Society \$5,000, or property of equal value, or any Associate Founder who shall donate \$2,500, or any Patron who shall donate \$4,000, may be elected by the Board of Trustees or Executive Committee a Founder.

SEC. 10. Any member who shall have donated to the Society ten thousand dollars (\$10,000), or its equivalent, may be elected by the Board of Trustees or the Executive Committee a Founder in Perpetuity. Such Founder in Perpetuity shall have the power to designate by a last will and testament his successor, who shall thereupon be entitled to all the rights and privileges of the original Founder in Perpetuity, including the right of designating in turn his successor.

SEC. 11. Any member who shall have donated to the Society \$25,000, or its equivalent, may be elected by the Board of Trustees, or the Executive Committee, a Benefactor. Benefactors shall have the rights and privileges of a Founder in Perpetuity.

SEC. 12. Persons who have rendered marked service in the science of zoology or natural history may be elected Honorary Members, but not more than three such Honorary Members shall be elected in any one calendar year.

SEC. 13. A resident member who shall have rendered marked scientific or professional services to the Society in any branch of its work may be elected by the Executive Committee a Life Member, Patron, Associate Founder, or Founder. A resident of New York who shall have rendered marked service in zoology or natural history may be elected by the Executive Committee a Permanent Fellow.

SEC. 14. Non-residents who communicate valuable information to the Society, or who have rendered marked service in the science of zoology or natural history, may be elected Corresponding Members.

SEC. 15. Benefactors, Founders in Perpetuity, Founders, Associate Founders, Patrons, Life Members, Honorary Members, Permanent Fellows, Fellows, and Corresponding Members shall be exempt from annual dues.

ARTICLE VII.

PRIVILEGES OF MEMBERS

SEC. 1. A member's ticket admits the member and his immediate family to the Park on reserve days, and to all lectures and special exhibitions, and may be used by the member's immediate family, and shall be good for the current year.

SEC. 2. Admission tickets to the Park and Aquarium on reserve days are issued to members for distribution, and are good for the current year.

SEC. 3. Each member of the Society is entitled annually to a member's ticket and to ten admission tickets.

SEC. 4. Each member shall also receive one copy of the catalogue or hand-book, the report and official publication of the Society, and shall have all the privileges of the Library and Members' Building.

SEC. 5. No member shall be entitled to the privileges enumerated in this Article unless his annual dues shall have been paid.

SEC. 6. The Life Members shall have all the privileges of members and ten additional admission tickets.

SEC. 7. Benefactors, Founders in Perpetuity, Founders, Associate Founders and Patrons shall have all the privileges of Life Members, and shall in addition receive copies of all scientific works published by the Society.

SEC. 8. Any member who shall fail to pay his annual dues within three months after the same shall have become due, and after notice of thirty days, by mail, shall cease to be a member of the Society; subject, however, to reinstatement by the Board of Trustees or Executive Committee for good cause shown.

SEC. 9. Any person elected to membership who shall fail to qualify within three months after notice of his election shall be considered to have declined his election; but such term may be extended by the Board of Trustees, or Executive Committee.

ARTICLE VIII.

FINANCES

SEC. 1. The fiscal year of the corporation shall be the calendar year commencing January 1st and ending December 31st.

SEC. 2. Neither the Society nor any of its Trustees or Officers shall contract any debt which, with existing debts, shall exceed in amount the funds then in the Treasury, except to meet expenditures for which the City is liable, and for which the Society will be reimbursed by warrants from the Comptroller's office.

ARTICLE IX.

AMENDMENTS

SEC. 1. Amendments to these By-Laws may be proposed, in writing, at any meeting of the Board of Trustees, and adopted by unanimous consent of the Trustees present, or if such proposed amendment shall fail to receive unanimous consent, the Secretary shall, with the notices of the next meeting, send a copy of it to each Trustee and state that it will be brought up for action at such meeting, when it may be passed by a majority vote.

